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SIR JOHN SOANE, R.A.

LECTURES

The masterpiece of Sir John Soane, R.A. *Drawn by J. M. Gandy, A.R.A.*

TIVOLI CORNER OF THE BANK OF ENGLAND

Sir John Soane, R.A. 1802-8.

LECTURES
ON
ARCHITECTURE

BY

SIR JOHN SOANE
R.A., F.R.S., F.S.A.
Professor of Architecture in the
Royal Academy.
Architect of the Bank of England.
Member of the Academies of Parma,
Florence, Vienna, etc., etc.

As delivered to the Students of the Royal Academy from 1809 *to* 1836 *in Two Courses of Six Lectures each.*

Edited from the Original MS. by
ARTHUR T. BOLTON
F.S.A., F.R.I.B.A.
(Soane Medalist)
Curator of Sir John Soane's Museum.

With 120 *Plates selected from the original Diagrams made by Sir John Soane and his Pupils.*

PUBLICATION OF SIR JOHN SOANE'S MUSEUM. NO. 14
MCMXXIX

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CONTENTS

Frontispiece. The Tivoli Corner of the Bank of England (1802-8).
Drawing by J. M. Gandy, A.R.A.

General Introduction by the Editor Pages 5-9

List of Plates ... ... „ 10-12

Summary Outline of Lectures ... „ 13-14

Lectures I-VI. First Course ... „ 15-106

Lectures VII-XII. Second Course ... „ 107-197

List of Plates ... ... „ 198-200

Plates 1-119 ... ... After page 200

List of Publications of Sir John Soane's Museum

LECTURES ON ARCHITECTURE

By Sir John Soane, r.a.

Given at the Royal Academy 1809-36.

GENERAL INTRODUCTION BY THE EDITOR.

WHEN SIR JOHN SOANE, r.a., undertook the heavy labour of these Lectures to the Students of the Royal Academy he had reached the age of 53, and had already been 26 years in active practice. Some of his finest work had been executed, including the Tivoli Corner of the Bank of England, the Princes Street Vestibule, £5 Note Office and Loggia to the Governors' Court, as well as Tyringham, his largest house.

He devoted three years (1806-9) to the preparation of the First Course of Six Lectures, and considering his incessant daily professional engagements he must have given the whole of his leisure hours, night after night, to his self-imposed task. This was a remarkable sacrifice for the benefit of Students and the advancement of the Art. He appears to have re-read all the standard works and filled several folio volumes with MS. extracts, which still exist, together with numberless sheets of draft Lectures. His chief guide in the maze of authorities and theories seems to have been the "Essai sur Architecture" of Marc Antoine Laugier (1713-1769) first published in 1755. Unfortunately, it does not appear when he first met with this work, but there is some reason for placing it at least as early as the year 1800.

It is highly doubtful if Soane had grasped a true idea of the historical status of this "Essai," to which he certainly attached undue importance. Written by a Jesuit historian it derived much of its effect from being regarded as an official statement of the changed policy of an Institution, which from its inception had been a teacher in Architecture. It can only be regarded in the light of a pronouncement in favour of a return to the most strict observance of Antiquity, as seen in the earliest Temples. The "Jesuit Style" which had overspread Europe, and had been carried into the New World, is condemned by every doctrine advanced in this Thesis.

The "Essai" in the course of a generation had been pretty well forgotten, and it is doubtful if it had ever been well known in England, in spite of the English editions of 1755 and 1756. With Soane, however, the seed fell on prepared ground, as on his travels, 1778-80, he had been deeply impressed by the Greek Doric of Lower Italy and Sicily, so that he had already broken loose from the doctrines of Sir Wm. Chambers, which had dominated Academic teaching at home. The opening of the new facade of the Bank towards Lothbury, in 1796, the year of Sir Wm. Chambers' death, gave rise to a severe attack on the innovating architect, thus proving the reality of the change. In point of fact Soane, in the work at the Bank between that date and 1806, became the real pioneer of the coming Greek Revival. Covent Garden Theatre, with its Greek Doric Portico, dating only from 1809, while the style only became dominant after the peace of 1815.

When, therefore, Soane set about the preparation of these Lectures in 1806-9 he undertook the most difficult of all tasks for a practising architect, that of trying to reduce his own instinctive impulses to a consistent theory, capable of being taught to others.

Soane's theory, so far as he could formulate it, was extraordinary restricted, and the effect of this Lecture preparation work (1806-9) rather intensified the mischief, so that he is actually found apologising for earlier work that could not be squared with his acquired doctrines. His instinct had proved sounder than his reading, but his

position was undoubtedly somewhat deceptive, though, as in the famous instance of Sir Joshua Reynolds, this contradiction was not perceptible to the author.

From an anonymous Student's letter to Soane, written in 1813*, it appears that the Professor's *"First Principles"* taught the impropriety and absurdity of "Domes, Blocking Courses, Arches, Pediments, Pedestals under Columns, Pilasters and Columns used together in the same composition, different intercolumniations in the same building, Caryatides, etc." A formidable list, but not at all a bad summary of the Cistercian attitude of Soane towards Classic Architecture. How this worship of the primary Temple Order, pure and simple, could possibly be reconciled with Soane's Adamitic tradition might well puzzle his contemporaries. It does, however, explain how in practical work he achieved some of his characteristic results. Self-cut off from the easy theatricalities of Nash, he had to evolve a design out of elements, which the nature of the building and the limited means at his disposal, supplied. The Orders were too sacred to be plastered about on classes of buildings, unworthy by use and character to receive them. The colossal pediment of a Temple on an office building would have been an outrage to him. So little was the Soane idea, as displayed in these Orderless works, understood that nearly all of them were received with contemporary derision. If Soane had reached the old Byzantium, or even seen the Greek Churches at Athens, he might perhaps have got an anticipatory grasp of the real historical development of Architecture. In the absence of that, in spite of his guess at the real date of Vitruvius, he never completely freed himself from the fables of the "Father of Architecture," and he actually endorsed similar superstitions about Gothic origins, this too, in spite of his clear perception of the geometric and constructional marvels of such works as King's College Chapel, Cambridge. Modern Archæological knowledge would have liberated his mind and given a free play to his talents, but surely this makes his achievement under such a restrictive basis of belief all the more remarkable.

There is, however, an aspect of Soane's teaching in these Lectures which is imperishable.

His freedom from pedantry in the use of the Orders is displayed again and again. While insisting strongly on the necessity of respecting the "Greek Imitative System," of rejecting all fancy new Orders and Mouldings, he lays it down repeatedly that no two Orders in Antiquity were ever the same. He rules out all fanciful systems of numerical proportions, standardised Orders and copyism of the Antique. Against such theories he sets "First Principles" founded on Nature, Truth, Reason and the fitness of things. Pediments must be regulated by Climate, and Porticoes are not to be merely scenic. Above all, Character, Harmony, and Completeness of Treatment, both within and without, are the essentials of a final Unity, in which every detail is seen to be duly subordinated to the whole effect, and such, he proclaims, is Grecian Architecture.

Classic Art of this type is, he asserts, Eternal, it may be forsaken and obscured, but the light will break through and there will be a return to First Principles.

Holding these views he is, nevertheless, desirous of welcoming special qualities to be found in the work of any country and period, and he seems at times to lay himself open to the charge of attempting to reconcile opposites.

It will be naturally asked what was the actual effect of Soane's labours? Is there any building that can be said to have been influenced by his thirty years of teaching, the period of a generation during which he had been listened to by Students who afterwards became famous?

The answer is that St. George's Hall, at Liverpool, commonly regarded as the finest classical building in England, which dates from 1839, *i.e.*, two years after Sir John Soane's death, complies in all essentials with his principles. The Fitzwilliam at Cambridge, dating from 1835, and by his most

* See "The Portrait of Sir John Soane." Page 141.

distinguished pupil, George Basevi, also owes much to his teaching.

Immediately, however, as so often happens in Art History, a fresh lead was given by a new and stronger personality, Sir Charles Barry, R.A., whom Sir John Soane had assisted as a young man. By force of character, original genius, and wide study in Egypt, Greece, and Italy, Barry revolutionised the older Classical Tradition. It is actually the case that Soane's last work, the State Paper Office, shows the effect of the newer influence. The Gothic Revival, whose beginnings go back to the time of Soane's birth, reached its highest point in the thirty years following upon his death. Another great war period, reproducing many of the conditions of Soane's years of active practice, has attracted renewed attention to his work and ideas, and he has been claimed as the "First of the Moderns." Soane describes himself as belonging to the "Old Classical School." His position in the classical field really inclines towards the School of Robert Adam and Sir John Vanbrugh, and away from that of the Wares, Sir Wm. Chambers, and Joseph Gwilt, Soane has nothing in common with the pedantic copyism of Sir Robert Smirke, or the confused enthusiasms of William Wilkins. His greatest strength resides in a measure of personal individuality, or expressionism, which renders his work recognisable and harmonious in itself. It may at times border on the eccentric but it never becomes vulgar. We are left to speculate what might have been had the Georgian prosperity of his student life not been broken up by the prolonged war period of his manhood, and had his great opportunity in 1794 of a new House of Lords not miscarried.

Besides, however, the outlook of an English architect towards Greece and Rome there is also the inevitable glance at what our neighbours across the Channel are doing, or have done, on lines historically perhaps more parallel than converging. Basevi, in one of his letters home, writes: (Paris, August, 1816) "I am now of Soane's opinion that they are at least a century before us in internal architecture." This must not, however, be pressed too far, because Soane rejoiced in the expulsion of French taste through the Adam reformation. What exactly was it that he admired in French work? The interior of the Pantheon at Paris, the Vendome Column, and the method of lighting in the dome of the Invalides, can be mentioned with certainty. The longest stay, so far as is known, that he made was six weeks in Paris, in 1819. He brought over his pupil, Henry Parke, to make studies for the French Section of his R.A. Diagrams.* It is evident that Soane appreciated the work of the French architect-engineers of the period, their bridges and canals appealed to his strong constructive sense.

In the Lectures St. Sulpice and St. Roche** are mentioned, but chiefly in order to point the moral of the poverty-stricken churches of the Million Grant of 1818. In fact, Soane seems to use Paris as a spur to the Nation to enlarge their ideas of what London should be as a Capital City. He says for instance: "If we look at the Palaces of the Louvre, the Tuilleries, and Versailles, they present an assemblage of elegant forms, and an appearance of princely magnificence" . . . . in contrast to St. James Palace and Buckingham House. "The Garde Meuble in Paris, the Surgeon's Theatre, the Theatre at Bourdeaux, and the other great works on the Continent, are models for our imitation, alas, we have not anything to compare with them. The overwhelming grandeur of Paris and other great Cities of France is not produced by the Churches, Palaces, Hotels, and Public Squares alone, the Fountains, and Reservoirs in number and magnificence are only inferior to those of Italy. What a contrast between these works, and our modern pipes and pumps."

Soane's leading idea, expressed in the same Lecture, that "The great beauty of Architectural Composition consists more in a due regard to Proportion, Symmetry, and Propriety of Form, both general and detailed, and in appropriate Decoration, than in great profusion of enrichment" would prevent his paying too much attention to a great deal of

* Plates 58-59-77-93-100-105.
** Lecture XI.

French work, in fact he was chiefly interested in the severe work of the Empire period. He objects to the famous Colonnade of the Louvre as standing on a basement pierced with windows, and he is consistently opposed to the Vignola system of superimposed Orders. In dealing with Planning and Disposition he lays down that, " on all occasions we must avoid servilely copying either the Greeks, or the Romans, the Italians, or the French, so much depends on locality, climate, materials, and modes of living." The Ecole de Chirugerie and The Hotel de Salms, afterwards the Palais de la Legion d'Honneur and the Hotel Thelusson, seem to have been the buildings that particularly interested him, while illustrating, of course, the usual leading buildings that the students would need to be shown. Bagatelle and the Petit Trianon he visited and mentions, but does not seem to have had drawings made of them. St. Cloud and Malmaison he went to on account of Napoleon, whose career fascinated him.*

So that, although Soane was all his life a close student of the French language and literature, and loved to entertain Frenchmen, to receive French architects, and even produced French editions of his books, the conclusion is quite against the idea that he was merely drawing on French sources of inspiration.

As regards the literary character of Soane's Lectures, their rather colourless, restrained, and often official style may probably be ascribed to the influence of the great President's Discourses. At times, however, the Lecturer's fiery nature is revealed in passages of an enthusiastic character. This was doubtless more in evidence in their personal delivery, for there is no question of their success with his audiences at the time, when given in person.

It is improbable that Soane attempted literary composition earlier than about 1802. There is an unfinished MS. of that date attempting to weave a romance about the deliberate burlesque of the ruins at Pitzhanger. It starts well enough but fades out in the absence of any definite objective. It may have served, however, to arouse his interest in writing as he had always been a great reader, and in more than one language. The idea of succeeding Dance, who had never lectured while Professor of Architecture at the Academy, may thus have taken shape in his mind. When the unscholastic character of Soane's self-education is remembered this must be regarded as a bold, and on the whole not unsuccessful attempt, on his part. For the rest of his life he continued to write with very unequal results, but his last work, the Folio Description of the House, 1835-36, is far the best, and seems to show that with greater advantages in early life he might have taken a high place amongst architect-writers.

. . . . . .

In dealing with the fair copy described later, it was first of all typewritten, and the text has been cut only in passages obviously repetitive, and occasionally of purely local and temporary importance. It was also considered necessary to break up the long periods that were still in use but would now be merely exasperating to the general reader.

The free use of capitals has been retained as characteristic and somewhat picturesque, suggesting the natural emphasis of the Lecturer. Occasionally the Editor has made an alteration that seemed to make the known intention of the author more clear, relying on a general acquaintance with Soane's modes of thought and expression.

Soane's " power of mind " was recognised by his contemporaries, but his expression, vivid and clear at times, became sometimes clouded, hesitating and obscure, re-acting probably according to his nervous condition, for he had a nature incapable of rest. His iron will drove him to an incessant labour, which

* Paris changes so much that it becomes difficult to identify its buildings at particular periods. The Palais du Roi de Rome, which Soane mentions, was a scheme begun on the site of the present Trocadero, this palace, started on a great scale, lapsed on the fall of Napoleon.

L'Hôtel Thélusson. Rue de Provence. Le Doux. 1780. Prince Murat. 1809. Russian Embassy.

L'Hôtel de Salm, by Rousseau, and altered by Peyre. Rue de Lille.

had disastrous re-actions on his nervous energy.

It is a commonplace that publishers have no regard for Lectures as selling books. No doubt they are wise in their generation, but it remains true that some of the world's great books originated as Lectures. The "Enchiridion" of Epictetus even, is no more than the lecture notes of a good student. A lively office discussion once raged on the question whether books on Art should be written at all, whereupon the member for Art laid it down that there might be something to be said for Reynolds' Discourses, on the ground that he had at any rate painted some good pictures. In this spirit it may be that some students will value Soane's Lectures, because he was after all the Architect of the Bank of England. In any case, their publication is due to his memory and part of the work of his Museum. If his life had been further prolonged he would have carried out the work himself in his customary lavish fashion. After his retirement in 1833, George Bailey, who became the First Curator on Sir John Soane's death in 1837, and C. J. Richardson, his last pupil, were engaged on this work. The Twelve Lectures were written out in copper plate in ten bound volumes, interleaved with colour drawings reduced from the Lecture Diagrams. This illustration work was never completed, and some of Richardson's reduced drawings are very indifferently executed. In the present Publication a selection from the Diagrams has been photographed direct from the originals, which are mostly four feet by two. There are some 2,000 in all, large and small, so that the task of selection has been no easy one. It seemed best to pass over all the customary examples, that can be found in any of the numberless text books on Architecture now available to all, and to choose subjects of some special interest, that would not easily be found elsewhere.

In some cases the pupils who made particular designs put their names on the back, which adds to their interest. Others were no doubt worked on by several and no particular name is given. Basevi was responsible for a good many and, while on his travels after the completion of his articles, writing home to his family, speculates that he "may have been missed at Lecture time." Henry Parke, a younger pupil had developed however, and proved a worthy successor, as the subjects from Paris given here will show.

Sir John Soane must have possessed great gifts as a teacher to have brought out so much ability amongst the pupils of his time.

Students who heard these Lectures included Professor C. R. Cockerell, R.A., James Elmes and his son H. L. Elmes, Sir Gilbert Scott, R.A., Raphael Brandon, Horace Jones, and, in fact, most of those who afterwards became famous. An account of the Pupils and others who were in Sir John Soane's office has been given a pamphlet (S.M. Publication No. 12), and the personal aspect of the Lectures is dealt with in Part II & III of "The Portrait of Sir John Soane." (*Soane Museum Publication No.* 13.)

The Editor has undertaken his share in this work in the hope that this Publication will be appreciated by the Students of the present and future times. He has also had the valued co-operation of the Architectural Association (34 Bedford Square), as the Students of to-day were given the opportunity of reading these Lectures of a century ago in their Journal (June, 1927, to May, 1929). This "circumstance," in his own phrasing, would have been a great "gratification" to Sir John Soane, as the "improvement" of the Student was a genuine personal interest, one for which he was at all times ready to spend himself.

Arthur T. Bolton, F.S.A., F.R.I.B.A.,
Soane Medallist.
Curator of Sir John Soane's Museum.
August, 1929.

LECTURES ON ARCHITECTURE

By Sir John Soane, r.a.

LIST OF PLATES

Plate.

Frontispiece. Tivoli Corner of the Bank of England. Sir John Soane, r.a. 1802-8.

1. Roman Composition. Ruins of Palmyra restored.
2. Egyptian Composition. Pyramids and Temples.
3. Eyptian Composition. Pillars confined by massy angles.
4. Greek Composition. Pillars placed upon Pillars. Paestum.
5. Greek Composition. Temple. Greek Doric.
6. Roman Composition. Street of Tombs. Pompeii.
7. Doric Composition. Comparison of Doric Orders from the Antique.
8. Doric Orders. Greek and Roman.

   Greek Doric Order. Minerva at Athens.

   Roman Doric Orders. Order at Albano.
9. Ionic Composition. Comparison of Ionic Orders by Renaissance Masters.
10. Corinthian Orders. Temple at Jackly. Asia Minor. Castor and Pollux. Rome.
11. Corinthian Order. Temple of Vesta. Tivoli. (See 25 and 101).
12. Corinthian Composition. Comparison of Orders.
13. Tuscan Order. East Front, St. Paul's, Covent Garden. Inigo Jones, Architect.
14. Tuscan Order. West Front, St. Paul's, Covent Garden. Inigo Jones, Architect.
15. Ammonite Capital by G. Dance. Boydell's Gallery. Pall Mall (Destroyed).
16. Columns grouped with Pilasters at Angle. Temple of Clitumus. Drawing by John Soan in Italy, 1779.
17. Temple of Fortune, Praeneste. Restoration.
18. Temple of Isis. Pompeii. Drawn by J. S. in Italy.
19. Temple of Isis. Pompeii. Drawn by J. S. in Italy.
20. Minerva Medica at Rome. Drawn by Chantrell from J. Soan's Survey in 1779-80.
21. Eleusis. Restoration. Drawn by J. M. Gandy, a.r.a.

Plate.

22. Church of All Hallows, London Wall. Interior. G. Dance, r.a., Architect.
23. Carlton House, Screen. Henry Holland, Architect. (1788-90. Destroyed c. 1827).
24. Tomb at Mylasa in Asia Minor.
25. Temple of Vesta at Tivoli (See 11 and 101).
26. Pantheon, Rome. Portico.
27. Pantheon, Rome. Elevation. John Soan, Meas. et del. 1778-79.
28. Facades not Related to Flanks. Covent Garden Theatre. Back and Side Elevations. Sir Robert Smirke, r.a., Architect. 1809.
29. Earl Darnley's Mausoleum at Cobham. Kent James Wyatt, p.r.a., Architect. 1783.
30. Diocletian's Palace at Spalatro. Sea Front.
31. Roman Acqueducts. Pont du Gard. Nismes. France.
32. Westminster Abbey. Interior prior to 1815.
33. Westminster Hall. Interior drawn by George Basevi prior to 1816
34. Campo Santo. Pisa.
35. Campo Santo. Pisa. Detail.
36. Fontana di Trevi. Drawn by Sir Wm. Chambers, r.a. Nicholas Salvi, Architect.
37. Sketch Section of the Corsini Chapel at St John Lateran. Rome. Coloured drawing by John Soan, at Rome 1778-80.
38. The Colonnade at Burlington House. (Destroyed).
39. The Colonnade at Burlington House. Detail.
40. Elevation. Sandby's Bridge Design.
41. View. Sandby's Bridge Design.
42. Caesar's Bridge over the Rhine.
43. Trajan's Bridge over the Danube and old Westminster Bridge. Bridge at Brioude over the Allier....France
44. Acqueduct and Viaduct in Sicily. (Built 1765-1777).
45. The Princes Street Vestibule of the Bank. Sir John Soane, Architect. 1802.
46. Decorative Design of Terms by Sir Wm Chambers, r.a.

PLATE.

47. TWO HOUSES ON THE WEST SIDE OF LINCOLN'S INN FIELDS.
Inigo Jones and Leoni.

48. THE LOTHBURY FRONT OF THE BANK OF ENGLAND.
Facing North. As built and designed 1796-1800.

49. ORIGINAL SKETCH BY JOHN SOANE.
First idea for a Senate House. Made at Rome in 1778-79. See Plate 115.

50 HOUSE OF LORDS DESIGN. 1794.
Sir John Soane, R.A., Architect.

51. SCALA REGIA.
1794 Design for new House of Lords.

52. ACQUA CLAUDIA. PORTA MAGGIORE. ROME.
Ancient Rustication.

53. HOUSE OF ZUCCHERO. FLORENCE.
Modern Rustication.

54. GREAT HALL OF THE BATHS OF DIOCLETIAN. ROME.

55. NATIONAL MONUMENT.
Design by Sir John Soane, R.A. Exhibited R.A. 1817.

56. DESIGN FOR MARYLEBONE CHURCH.
By Sir Wm. Chambers, R.A., about 1771. Elevation.

57. DESIGN FOR MARYLEBONE CHURCH.
By Sir Wm. Chambers, R.A. Section and Plan.

58. PANTHEON. PARIS.
Interior looking East. Drawn by Henry Parke in Paris with Sir John Soane, 1819.

59. PANTHEON. PARIS.
Interior view across Transept. Drawn by Henry Parke in Paris.

60. BRITISH COFFEE HOUSE.
Cockspur Street. Robert Adam, Architect. 1770. Destroyed 1878.

61. GREAT EATING ROOM.
Wilton House. Wilts. 1649(?) Inigo Jones, Architect. See Plate 73.

62. BANQUETING HOUSE.
Whitehall. 1619. Inigo Jones, Architect. R.A. Silver Medal drawing by Sir John Soane, R.A., 1772.

63. DESIGN BY GEORGE DANCE, R.A.
Great Gallery at Lansdowne House, Berkeley Square. 1794(?)

64. SOMERSET PALACE.
Strand. 1638. Inigo Jones, Architect. Drawn by John Soane, 1770. Destroyed 1776.

65. GEORGE DANCE, R.A.
Prize Design. Parma. 1763. Plan.

66. GEORGE DANCE, R.A.
Prize Design. Parma. 1763. Sections.

67. GEORGE DANCE, R.A.
Prize Design. Parma. 1763. Elevation.

68. ASHBURNHAM HOUSE.
Dean's Yard. Staircase by Inigo Jones. Drawn by G. Basevi.

69. STAIRCASE.
Queen's House. Old Buckingham House. St. James' Park. (Destroyed 1827).

70. STAIRCASE.
Queen's House. Cross Section. (Destroyed 1827).

71. STAIRCASE.
By Wm. Kent. Lord Clermont's House, Berkeley Square.

PLATE.

72. STAIRCASE.
Carrington House, Whitehall. Sir Wm. Chambers. Drawn by G. Basevi. (Destroyed).

STAIRCASE.
Buckingham House, Pall Mall. Sir John Soane. 1794. Drawn by G. Basevi. (Destroyed).

73. WILTON HOUSE, WILTS.
Garden Front. Inigo Jones, Architect. See Plate 61.

74. THIENE PALACE. VICENZA.
Side Elevation. A. Palladio, Architect.

75. CHERICATI PALACE, VICENZA.
(Now the Museum). A. Palladio, Architect

76. VILLA CAPRA (ROTUNDA), VICENZA.
A Palladio, Architect.

77. STREET FACADE, PARIS.
Showing Mezzanine. Drawn by H. Parke in 1819.

78. BLENHEIM CASTLE, OXFORD.
Entrance Front. Sir John Vanbrugh. 1704.

79. CASTLE HOWARD, YORKS.
Entrance Front. Sir John Vanbrugh. 1699.

80. SEATON DELAVAL, NORTHUMBERLAND.
Entrance Front. Sir John Vanbrugh.

81. GRIMTHORPE, LINCOLNSHIRE.
Entrance Front. Sir John Vanbrugh.

82. LAURENTINUM.
Pliny's Villa. Restored by Edward Stevens

83. GARDEN AT HERRENHAUSEN NEAR HANOVER

84. BUILDINGS AT KEW GARDENS.
Sir Wm. Chambers, R.A. (Mostly destroyed).

85. FARNESE GARDENS ON THE PALATINE, ROME.
(Destroyed).

86. COLLEGE OF PHYSICIANS, WARWICK LANE.
Sir Chr. Wren, Architect. (1674-89). (Destroyed 1866).

87. COLLEGE OF PHYSICIANS, WARWICK LANE.
Interior of Quadrangle. (Destroyed 1879).

88. FISHMONGERS' HALL, LONDON BRIDGE.
(Destroyed 1830).

89. THE CIRCUS AT BATH COMPARED WITH THE COLOSSEUM AT ROME.

90. SOMERSET HOUSE.
First Plan. Sir Wm. Chambers, R.A.

91. SOMERSET HOUSE.
Strand Front. Sir Wm. Chambers, R.A. (1776-80).

92. SOMERSET HOUSE.
Interior of Quadrangle.

93. "SURGEONS THEATRE," PARIS.
Goudoin, Architect. 1744.

94. ST. PAUL'S CATHEDRAL.
Measured drawing by Sir John Soane, R.A.

95. ST. ROCHE, RUE ST. HONORÉ, PARIS.
Drawn in 1819.

96. BERNINI'S DESIGN FOR THE LOUVRE, PARIS. 1665.

97. PALAIS LEGION DE HONNEUR, PARIS.
Drawn by H. Parke in 1819.

98. HOTEL DE CONDÉ, PARIS.
Drawn by H. Parke in 1819.

99. PERE LA CHAISE CIMITIERE, PARIS.
Drawn by H. Parke in 1819.

PLATE.

100. BASIN CANAL D'OURC, PARIS.
Drawn by H. Parke in 1819.

101. FULL SIZE CAST OF THE TIVOLI TEMPLE ORDER IN SIR JOHN SOANE'S MUSEUM. (See 11 and 25).

102. HOUSE OF SIR JOHN VANBRUGH, WHITEHALL. 1699. (Destroyed).

103. HOUSES IN GROSVENOR SQUARE.
R. and J. Adam 1763(?).

104. INTERIOR ST. MARTIN'S IN THE FIELDS.
James Gibbs, Architect.

105. PLACE VENDOME, PARIS.
J. H. Mansart after 1687. Drawn by H. Parke in 1819.

106. HOUSES IN GREAT QUEEN STREET, HOLBORN.
Attributed to John Webb, Architect. (Destroyed).

107. 20 ST. JAMES SQUARE.
Robert Adam, Architect. 1772.

108. COMPARATIVE DRAWING.
St. Peters, Pantheon, Radcliffe, and Rotunda of the Bank.

109. BERNINI TOWER, WEST END.
St. Peter's, Rome. (Destroyed).

110. CONSTRUCTIONAL DRAWING. DULWICH ART GALLERY.
Sir John Soane, R.A. 1812.

PLATE.

111. CONSTRUCTIONAL DRAWING. CHELSEA INFIRMARY.
Sir John Soane, R.A. 1815.

112. CONSTRUCTIONAL DRAWING. CONSOLS OFFICE. BANK.
Sir John Soane, R.A., Architect. 1818-23.

113. CONSTRUCTIONAL DRAWING. CONSOLS OFFICE.
Plan of Vaulting. Sir John Soane, R.A. Architect. 1818-23.

114. TRIUMPHAL BRIDGE.
R.A. Gold Medal, 1776. Original Prize Drawing by J. Soan.

115. SENATE HOUSE DESIGN.
Sectional Drawing made in Rome 1778-79 by J. Soan. (See 49).

116. BASILICA, VICENZA (1545-49).
Andrea Palladio, Architect. 1518-1580.

117. NEWGATE PRISON.
G. Dance, R.A., 1769. As altered after the 1780 fire. (Now destroyed).

118. COMPARATIVE DRAWING.
Parthenon and St. Martin's in the Fields.

119. THE SOANE FAMILY TOMB.
Old St. Pancras. Sir John Soane, R.A. 1816. Drawn by G. Basevi.

The Tailpieces at the ends of nine of the Lectures, are from photographs by Mr. Gee, from the plaster models obtained by Sir John Soane in Paris, about 1820. *Though not scientifically correct, they give an idea of some of the Ancient Buildings of Athens, Rome and Palmyra.*

LECTURES ON ARCHITECTURE

By Sir John Soane, r.a.

SUMMARY OUTLINE

Lecture I. Pages 15-25. Pages

Introductory.

Students' needs 15-16
Civil Architecture defined 17
Early Origins 17
Work of the Ancients 18
India 19
Egypt 20-21
Greece 21
Timber Huts 22
Athens 23
Vitruvius 24-25

Lecture II. Pages 26-40. Pages

Orders.

Rome 26
Temple of Jerusalem 27
Orders 28
Mouldings 29
Doric Order 30
Ionic Order 33-34
Corinthian Order 35-40

Lecture III. Pages 41-58. Pages

Orders.

Tuscan and Composite 41
Fancy Orders 42-43
Caryatides 44
Attics 45
Columns 46
Spacing 47-48
Hypethral Temples 49
Temples. Ephesus, Preneste, etc. 49-50
Internal Orders 51
Columns upon Columns 54
Proportion 55
Education of Students 56-58

Lecture IV. Pages 59-77. Pages

Application of Orders, Pediments, Etc.

Columns 59
Porticoes 59
Antae 60
Pilasters 61-63
Pedestals 64
Pediments 64-69
Balustrades 69
Obelisks 70
Pyramids 71-72
Mausolea 73
Forum Trajan 74
Basilicas 74
Arches 74
Thermae 75

Lecture V. Pages 78-92. Pages

Dark Ages and Revival.

The Dark ages 78
Gothic 79
Renaissance 84
Bruneleschi and Alberti 84
Bramante 85
M. Angelo, Peruzzi, Raphael, San Michele, Julio Romano 86
Serlio, Vignola, Palladio, Scammozi, Bernini, Salvi 87
Sir Wm. Chambers 88
John Thorpe, Inigo Jones 88
Wren, Vanbrugh 89
Burlington 90
Sandby's Bridge Design, and Soane's 91-92

Lecture VI. Pages 93-106. Pages

Application of Orders, Pediments, Etc.

Arches 93
Bridges 94
Domes 95
Spires 96
Stairs 97
Decoration 98-100
Proportion 100
Basements 101-102
Theory and Practice 103-106

LECTURE VII PAGES 107-120. PAGES

DISTRIBUTION, CONSTRUCTION, DECORATION.

Distribution 107
Construction 108
Decoration 109
Rustication 110
Use of Orders 111-112
Beauty 113
Villas 114
National Buildings 118

LECTURE VIII PAGES 121-137. PAGES

INTERNAL ARRANGEMENT, ROOMS, STAIRCASES, ETC.

The Study of Antiquity 121
Rooms 122
Warming 123
Chimneys 124
Windows 125
Doors 127
Character in Building 128
Alteration of old Buildings 128-129
Planning 130-133
Staircases 133-137

LECTURE IX. PAGES 138-151. PAGES

PRINCIPLES.

Principles 138
Facades 139
External Doorways 140
Pilasters 141
Roofs 142-144
Balustrades 145
Chimneys 145
Mezzanines 145-146
Entrance Steps 146
Distribution of Office Wings 147-149
Villas of the Ancients 149-151

LECTURE X PAGES 152-165 PAGES

GARDENS AND CITY PLANS.

Gardens 152
Garden Buildings 153
Ruins 154
Ancient and Modern Gardens compared 155
Leasehold Building 156
Street Improvements 157
Ancient Works 157
London's mean Houses 158-159
Orders on Orders 159-161
High Basements 161
Porticoes 162
Columns in Relief and Scale of Columns 163
Sites, Public Buildings and Bridges 164
Gwyn's London and Westminster Improved 165

LECTURE XI. PAGES 166-181. PAGES

DECORATION AND COMPOSITION.

General Inferiority of English Public Works 167
Buildings in Paris and Fountains 167
Decoration 168-173
Composition 173-177
Character 177
Speculative Building 178
Patrons 180
Conclusion. Tribute to Robert Adam 180

LECTURE XII. PAGES 182-197. PAGES

CONSTRUCTION.

Construction 182-183
Foundations 184-185
Works in Water 186
Bridges 187
Teaching of Construction 187
Fireproof Buildings 188
Famous Fires 189
Dry Rot 189
Seasoning for Buildings 190
Defects and Quacks 190
Models 191
Travel Abroad 192
Rock Base for Statue of Peter the Great 192
Fontana and Obelisk of St. Peter 193
Architects of Antiquity 194
Modern Conditions 195
Sir Wm. Chambers and Greek Art 196
Conclusion 197

LECTURES ON ARCHITECTURE

By Sir John Soane, r.a.

FIRST COURSE LECTURES I—VI.

LECTURE I. INTRODUCTORY.

Mr. President,—Architecture in particular, and the Arts and Science in general, for their great use and ornament in civilised Society, have in all ages been cultivated and cherished. The decision of the famous question, proposed more than half a century past by the Academy at Dijon, " Respecting the good or bad tendency of the Arts and Sciences " was against the received opinion of their being beneficial to Society; the Romans, however, in common with all enlightened Nations, thought so differently from J. J. Rousseau (who gained the prize on that occasion) and the Academy at Dijon, that, even in the time of Septimius Severus, they were anxious to preserve at least the knowledge of Architecture. The most able architects were then invited to Rome from every part of the Empire, and intrusted with the care of the Public Works. Schools of Design were also established with the laudable intention of forming Artists, who might hereafter in their works emulate the perfection of those majestic Edifices, which had been raised in the times of Pericles and Augustus.

In subsequent times, in different Countries, Academies have been established, Professors appointed, and Public Lectures and practical instructions given in the most liberal and extensive manner. In this Country, soon after the accession of his present Majesty, a Royal Academy was instituted for the especial encouragement of the Arts of Design. Amongst the Laws of this Institution it is declared that " There shall be a Professor of Architecture, who shall annually read Six Lectures, to form the taste of the Students, to interest them in the Laws and Principles of Composition, to point out to them the beauties or faults of celebrated productions, to fit them for an unprejudiced study of Books, and for a critical examination of Structures."

The duty here imposed on the Professor of Architecture is no inconsiderable a task, yet I have ventured to meet the frightful responsibility of this arduous, and to me painful situation, from my love to the Art, and regard for this Institution, and from another motive, perhaps equally powerful, namely that no other member would encounter the difficulties.

The Student in Architecture has also many, and great, difficulties to encounter, but they may be all overcome by reasonable assiduity, and proper application. He must be conversant in Arithmetic, Geometry, Mechanics, and Hydraulics; and be able to explain his ideas with clearness, correctness, and effect. He must be familiar with the use of the Pencil and must not be satisfied with Geometrical delineations, for the real effect of a Composition can only be correctly shewn by Perspective representations. The Student must therefore be fully acquainted with the theory and practice of Perspective, and be able to sketch his ideas with facility, and correctness.

Our late ingenious Professor of Architecture, Mr. Sandby, particularly recommended to the young Student to accustom himself to draw after real Buildings, and natural objects, without Rulers and Compasses, that he might aquire a facility of drawing by hand, and correct that hardness that generally predominates from the habit of using rulers and compasses only. By this method of Study, the young Artist would at the same time observe the natural effects of light and shade, in the various tints produced by different objects. Such was the advice of Mr. Sanby, a man whose name must live in his works (*Plates* 40-41), when the many amiable qualities of his mind shall cease to be remembered.—

> " Tread lightly on his ashes ye men of
> " Genius—for he was your kinsman;
> " Weed his grave clear, we men of
> " Goodness—for he was your Brother."

The Student must also draw the human figure, with taste and correctness, and have a competent knowledge of Painting and Sculpture. He must read much, and reflect more. He must live in the bosom of his Profession; for Architecture is too coy a Mistress to be won without constant attention.

The mind of the Student should be impressed with the absolute necessity of close and unremitted attention, of deep and indefatigable research. From earliest youth not a moment must be lost by him who desires to become a great artist. He who seeks superior excellence must search deeply into the motives and principles, which directed the minds of the great Artists of Antiquity, who produced those works of elegant fancy, of true refinement, and correct taste, which have done so much honour to the human mind and will ever be the admiration of enlightened people of all ages and of all Countries. By referring to first principles and causes, the uncertainties of Genius will be fixed, and the Artist enabled to feel the beauty and appreciate the value of Ancient Works, and thereby seize the spirit that directed the minds of those who produced them. We must be intimately acquainted with not only what the Ancients *have* done, but endeavour to learn from their Works what they *would* have done. We shall thereby become Artists not mere Copyists; we shall avoid servile imitation and, what is equally dangerous, improper application. We shall not then be led astray by fashion, and prejudice, in a foolish, and vain pursuit after Novelty and paltry conceits, but contemplate with increased satisfaction and advantage the glorious remains of Antiquity.

I must caution my young friends not to expect great novelty in these discourses; for Novelty, and flights of fancy, however amusing, cannot be very instructive, and of course not very conducive to the main object of these Lectures, which is to trace Architecture from its most early periods. To show its various stages of progressive improvement in different Countries, as well as the causes thereof. This investigation, I trust, will show why most Nations have adopted different ideas of Building, depending on climate, materials, and other considerations. That Architecture does not owe its origin to any particular people, I hope will be fully established from the descriptions of ancient writers, the remains of Antique Buildings, and the Works of the great restorers of Art, in subsequent times.

I shall endeavour to make the works of the Ancients and Moderns familiar to the Student, and point out to him, according to the best of my judgment and experience, their beauties and defects, and the various means by which the great Masters of Antiquity attained such superior excellence and such high pre-eminence. The mind of the Student cannot be too much impressed with the intimate connection between Architecture, Painting, Sculpture, and Decorative Landscape Gardening. From the study of these Arts, Architecture derives much of its powerful effect, mighty grandeur and fascinating scenery. By these means I hope the Student will not only be enabled to pursue his Studies with full confidence, on sure and rational principles, but that the latent seeds of Genius will be called into action, and the power of Architecture to affect the mind be fully known, and felt, as well as its use to civilized Society.

I trust that all defects, whether in language and arrangement, or in the drawings and models, will be imputed, not to any want of zeal and application on my part, but to the difficulty and extent of the task I have undertaken. If in the endeavour to discharge the duties of my situation, as pointed out by the Laws of this Institution, I shall be occasionally compelled to refer to the Works of living Artists I beg to assure them that, whatever observations I may consider necessary to make, they will arise out of absolute necessity, and not from any disposition, or intention, on my part merely to point out, what I may think, defects in their compositions. No man can have a higher opinion of the talents and integrity of the Architects of the present time than myself, nor be more anxious on all occasions to do justice to their merits and fair pretensions to fame.

Architecture, from the earliest periods, has

engaged the attention of mankind, nor can this be wondered at when we see how necessary and how useful it is. It protects us from the shivering Lightnings and furious Tempests, from the heats of Summer and the severities of Winter; and by its powers the comforts, conveniences, and refinements of life are increased.

Architecture likewise defends us from ambitious neighbours; it instructs us also in the Art of building Ships, by whose assistance we are enabled, in defiance of winds and waves, to penetrate into the most distant parts of the Globe, and to enrich our Country with the various productions of other climes.

Hence we may derive the origin of Civil, Military, and Naval Architecture.

Civil Architecture, which alone will be the subject of these Lectures, is both essential and ornamental; it is partly an Art, and partly a Science; it consists of the Theory and Practice of Building.

The term Building, at first presents to the mind little more than the idea of something merely mechanical, to be done by line, level, and compass. When we penetrate into the recesses of this noble and useful Art, we are equally surprised and delighted; we soon perceive that its leading principles are founded on the immutable laws of Nature and of Truth; that in many of the great works in Architecture there is a sublimity of thought, a fertility of invention, and a boldness of Design, which exalted minds alone could produce. The variety, elegance, and characteristic propriety of the ornaments evince the most solid judgment and the most correct taste:—indeed, the harmony and superior charms that we see in many of the Works of Antiquity almost realise the fabled power of Amphion's lyre.

If through the medium of those Works we consider the subject, we shall then do justice to the wonderful powers of Architecture and place it in the first rank of refined Art, and exalted Science.

Nature in every country indicated the necessity of shelter, and if, according to some Writers, we suppose mankind in their most early and uncivilised state divided into different classes — namely, Hunters, Fishermen, Shepherds, and Husbandmen,—each of these would have different ideas of comfort and convenience. If we consider the local circumstances of the materials of different places, we shall easily see why the Architecture of some countries resemble (although very remote from each other) whilst in others it is totally dissimilar.

The Hunter having pursued his Game, takes for his resting place the first cavern that presents itself; so does the Fisherman also; the Shepherd, who attends his flock from place to place, takes with him his Tent of Skins; the Husbandman alone is fixed. He must watch the Seasons, wait his Harvests, and gather the fruits of his industry. The Husbandman therefore requires a permanent dwelling for himself, and fit places to receive his stores. Thus we have the first use of the Cavern, the Tent, and the Hut. To these different modes of Sheltering Mankind we owe most of those marked characteristic distinctions to be found in the Works of India, China, Egypt, and Greece.

In all Countries natural Caves in the Rocks exist; but, as Nature did not always keep pace with the population of mankind, and more habitations became necessary, Men themselves then formed Caves in the Rocks similar to the Models which Nature had provided for them; for Man is such a creature of habit that, even when he quitted his Caverns, and shady retreats, and formed habitations in the open fields, he still worked from the same prototypes, and from them formed dwellings of the most simple kind.

Man, by nature a social being, can only exist in Society; we can therefore readily suppose that he soon added Hut to Hut, and Tent to Tent, and that from such feeble beginnings arose Towns and Cities.

From ancient writers we can form some idea of the nature of the dwellings of which the first Towns, and Cities consisted. Diodorus tells us that the early dwellings were formed chiefly of reeds and of wood. According to Strabo, the primitive people having felled a quantity of Trees, and enclosed therewith a large Wood, they raised a

number of Huts for themselves, and Hovels for their Cattle.

Cæsar, in his Commentaries, speaking of the Ancient Britons, says : a thick Wood surrounded with a ditch and Rampart, was by them called a Town. Vitruvius tells us that in the first ages Men lived in Forests, Woods, and Caves; and in Genesis we are told that Abraham, and his successors, followed a Pastoral life, and lived in Tents.

The first City we read of was built by Cain, and probably consisted of little more than Huts, and Tents of the most simple kind. The first House we have on record was erected by Jacob :—after this we are told of the City of Babel, built with bricks; and in the sacred writings also we read of the superb and mighty City of Nineveh, which was so extensive in the days of Jonah that its Streets were in length three days journey.

Semiramis likewise founded the proud City of Babylon, which was surrounded with lofty Walls having gates of brass, and enriched with public Buildings of the most costly and extensive kind.

Among the great Works of Antiquity the Mausoleum of Ninus is spoken of as an Edifice of almost incredible extent, and as rich as Art, unfettered by expense, could make it. This building, however magnificent was far surpassed by the Mausoleum, mentioned by Vitruvius, built by Artemisia to the memory of her beloved husband Mausolus, which building, from its great superiority over all others, gave the name of Mausoleum to all such edifices.

Pliny the Elder also speaks of this proud edifice in high terms, and describes it pretty much at large in the 36th Book of his Natural History. This would be a fine subject to exercise the mind of the Artist, and I therefore refer my young friends to Pliny's description.

Of the great and stupendous Buildings with which Nineveh, Babylon, Troy, and many other mighty Cities of Antiquity, were once adorned; of the great and numerous Works ascribed to Sesostris; the immense Labyrinth of Egypt, the Lake of Moeris, with its magnificent Mausoleum, and mighty Pyramids, nothing remains of their ancient splendour—not even a stone or inscription—to point out their situation. The Palace of Priam, also, with its pavilions and domes, lives only in Homer's song; nor have the Brazen Walls, the Silver Pillars, and the golden doors of the Palace of Alcinous been able to withstand the ravages of time and the enmity of rival Nations;—all is buried in the silent grave.

" Jam seges est ubi Troja fuit resecandæque falces
" ..... ruinosas occulit herba domos."

It is to the ancient Historians and Poets that we are indebted for all we know of these great works, as well as of the wonderful costliness, and surprising magnitude, of many others.

Of the accuracy of their descriptions, we might sometimes doubt, if we had not still remaining such very extensive ruins of some of the Works of Ancient times in India, Persia, Syria, and Egypt, as well as in Greece and Italy. Of these numerous and mighty ruins, perhaps those of Palmyra and Baalbec will be sufficient for my present purpose, which is chiefly to impress the minds of the young Students with the utility and necessity of consulting Ancient Authors. (*Plate* 1.)

In these drawings (copied from Wood and Dawkins) are shewn the remains of many magnificent Temples, Colonnades, and other Buildings crowded together, most of them of prodigious magnitude, of costly materials, and expensive execution. These mighty ruins do not rest on description; of their existence we can have no doubt, and surely they will justify us in giving full credit to the existence of many of those wonderful and mighty structures, which we only know from the descriptions of Ancient Writers.

Among the various stupendous works of the Ancients, the prodigious excavations in rocks and mountains demand our attention; many of them are of such a remote antiquity as to baffle every attempt to ascertain the period of their formation. We know indeed that the custom of forming such excavations, whether as dwellings for the living, depositories for the dead, or as Temples to the

Gods, prevailed in countries remote from each other, and moreover in nations separated by great differences of Government, Customs, Climate, and Religion.

The Excavations in India claim great attention; those of Elephanta, Salsette and Ellora, produce the most lively sensations; sometimes by the simplicity of their forms, often by their magnitude and grandeur; and sometimes by their similarity to the Works of the most polished Nations, in the most enlightened times.

The Cavern of Elephanta is a square excavation of about 120 feet, and 15 feet high. The ceiling is flat, supported by immense pillars and decorated with Colossal Sculpture. The quantity, the masses, the gloom, the breaks of light and shadow, must altogether produce a most awful and sublime effect.

The Excavations at Salsette are even considerably larger, and more imposing, than those of Elephanta; a great number of immense pillars, with bases, and capitals richly sculptured, support the vaulted roof of this prodigious work, and also the mountain over it.

In the Plan of this Excavation we see a great similarity to the forms used in Roman buildings.

But these excavations fall very short indeed of those in the Mountains near Ellora. We there have a town of them of prodigious grandeur and elegance. They are in general crowded with columns and colossal Sculpture, all cut out of the solid Granite rock. In these works, whether we consider the great labour and difficulty of execution, the symmetry and variety in the Plans, the breadth of light, and shadow, the awful gloom, the happy and powerful combination of forms, we are highly interested, and the effect of the whole almost surpasses the utmost extent of our imagination.

The Pagodas, and many other great Buildings in India, are also astonishingly curious; they are in mass, figure, and extent equal to the buildings of the Egyptians; nor can this be wondered at, for in general they owe their origin to the same causes.

These works are proper subjects for the contemplation of the Artist, who will from them enlarge his stock of ideas.

I shall therefore refer him to the superb views of India now publishing by a Member of this Institution,* regretting however that we are not yet in possession of geometrical drawings of the parts from actual mensuration, without which no correct judgment can be formed of their true value to the Architect.

In the mountains near Persepolis are likewise many sepulchral chambers cut out of the solid rock.

I have given a drawing of one of them from Le Brun, which is decorated with pillars, whose capitals are composed of busts of bulls surrounded with a large quantity of allegorical sculpture.

The Sepulchral Chambers at Telmissus are also cut out of the solid rock. Two of them in particular attract our attention, whose fronts of Grecian design are characteristic of their destination.

Before I quit the subject of excavations, I shall produce a drawing of one of those at Corneto, the early works of the Etruscans, for which I am indebted to a member of this Institution.** These works are particularly interesting from their resemblance to some of those already spoken of, and likewise from the decorations of Monochromatic Paintings, like those on some of the Etruscan Vases. One of these excavated chambers is of a quadrangular figure, with a flat roof supported by four massive Pillars finished with capitals, composed of a few simple parts with painted Ornaments. On the wall is a deep frieze enriched with Paintings. The roof is curious from being formed by beams into panels with square risings like those in the ceilings of some of the Greek Temples.

At Paluzzuolo is a monument of the elder Tarquin, cut out of the solid Rock, in which some have imagined they discovered in the roof thereof a groined arch. I shall probably speak of this Monument as well as those at Corneto more at large in a subsequent Lecture.

* *Editor's Note.*—Daniell, Thos. and Wm. "Antiquities and views in India. 3 Vols. fol. London. 1789-1801." "Hindoo excavations at Ellora. fol. London. 1803."

** Dance? or possibly J. M. Gandy, A.R.A

Egypt abounds with natural Excavations, from which the Egyptians seem to have taken their taste as well as the first ideas of their Building; and we may also observe that even in their subsequent and most splendid works they never lost sight of their primitive Model. The Cavern is perpetually the Type of their Architecture, and from the extensive remains of their Works as represented by Norden, Pocock, Denon, and other Travellers, its progress may be traced from the most simple constructions to the highest degree of excellence that the Egyptians ever attained.

The Temple at Syene may be taken as a Work only one step removed from the primitive Cave. It is of the most simple kind, consisting of a Porch with a single row of pillars, and two Rooms behind them.

At Esnai is another work of a more enlarged disposition. The Porch is composed of two rows of pillars, and the interior has a greater number of divisions than the Building at Syene.

At Etfou is a disposition yet more enlarged: the Porch has four rows of Columns with a spacious area before it. These three buildings may be considered as so many examples of the earliest efforts of the Egyptians.*

At Luxor is a Temple far exceeding the buildings already spoken of; it is a wonderful proof of the perseverance and industry of the Egyptians, and also of the sublimity of their ideas. At the entrance is a Hall of immense grandeur, with a flat ceiling supported by an immense quantity of pillars. Beyond this Hall is a Peristyle, whose Columns of prodigious diameter lead to an open Court. In the front of this Court is the Porch of the body of the Temple with four rows of Columns in depth, and double Colonnades on each side. There are also other rows of Columns in the part before you reach the Sanctum, wherein was placed the Statue of the god. (*Plate* 2.)

Herodotus, who travelled over Egypt, and whose accuracy is generally admitted, speaks of a Temple to Diana, in the City of Bubastis, as a most uncommon and beautiful edifice, which he describes as being disposed in a manner very unlike any of those he had before seen. It was placed in the middle of an enclosed area of 625 feet square, surrounded with magnificent Porticoes, and the walls richly adorned with Sculpture. From the description of Herodotus we may presume that the Temples of Jupiter Serapis in Pozzuolo, of Isis in Pompeii, and of the Sun in Palmyra, were very like in their form and disposition to that of Diana in Bubastis.

But grandeur and enormous masses were not confined to the Architecture of their Temples and Palaces. Their Sculpture was generally colossal—nay, even their Obelisks, apparently only for decoration, were frequently of prodigious and gigantic dimensions. Of the origin, figure, and general application of Obelisks, as well as of the amazing powers used in moving them, I shall have occasion to speak at large hereafter.*

The Pyramids likewise, from their number and prodigious magnitude, claim no small degree of our attention, and admiration. Their forms, although of the most simple kind, produce the greatest variety of effect. They are sometimes conical at their bases, but in general square.

At Cairo are three Pyramids of surpassing extent, placed near each other. The largest of them is about 700 feet, at its base, and about 500 feet high, gradually diminishing to a flat space at the top, of some few feet only in extent, probably intended to receive a statue. But notwithstanding this flat space, the Pyramid, from its great height, seems to finish in a point. This amazing Structure occupies a space of about eleven acres, which is almost as large as the whole area of Lincoln's Inn Fields. Three hundred and sixty thousand men are said to have been engaged seventy years in erecting this enormous pile. Indeed, the Pyramids alone would have been sufficient to immortalize the Sovereigns of Egypt, and to have proved the ardent and successful desire of the Egyptians to transmit their names to posterity. Such indeed is the solidity of the public works in general of the Egyptians that neither time nor

**Editor's Note.*—In the early days of Egyptian exploration the Ptolemaic temples of Edfou, Esneh and Denderah were mistaken for early work.

* Lecture IV, page 70, and XI, page 193.

the convulsions of nature, nor the revolutions of Empires have destroyed, nor the power of merciless and exterpating conquerors removed them. Many of their prodigious works still exist, and will exist, in awful ruin, and majestic state, to the last moment of recorded time, even to that general convulsion of all things when, in the language of our immortal Bard,

> "The cloud-capt Towers, the gorgeous Palaces,
> "The solemn Temples, the great Globe itself—
> "Yea, all which it inherit shall dissolve."

It is impossible not to be impressed with the grandeur and magnitude so peculiar in the works of the Egyptians in general, but particularly in their sacred buildings. The extensive approaches to some of their Temples, formed by avenues of colossal Sphinxes and other animals, the long unbroken lines of the architecture, the large quadrangular Pillars of gigantic dimensions placed near each other in single, double, triple, and sometimes in quadruple rows, always supporting flat roofs and forming deep recesses—the extent of these structures tires the eye. Their grandeur and unaffected simplicity fire the imagination, whilst the varied play of light and shade, bursting through different parts, in every direction, and occasionally falling upon the colossal Sculpture on the walls, must always produce the most powerful effects on the beholders. But although we may be dazzled and surprised by their magnitude and solidity of these Works, yet we are by no means satisfied; for, instead of those varied and Characteristic modifications, instead of that beauty and variety which grow out of correctness of design, instead of the graceful and harmonious disposition of parts so visible in Grecian works, we have in these only uniformity and tiresome monotony, in the general forms as well as in the details. Nor can we be surprised at this when we recollect that the principal features of the Egyptian Architecture were taken from Caverns formed in the Rocks, to which they adhered so rigidly that even when round Pillars were used internally, as they sometimes were decoratively (not constructively), they were rounded for use, and not for beauty. Even when we see Pillars in the fronts of their Temples they are always confined by massy Piers at the angles, like those before shewn in the front of one of the Sepulchral Chambers at Telmissus. (*Plate* 3.)

The essential qualities of Egyptian Works are prodigious solidity and wonderful magnitude—these are the leading objects and prominent features in their Architecture and Sculpture—indeed, in all their works everything seems calculated for Eternity; and if solidity, quantity, mass, and breadth of light and shadow were the only requisites in Architecture, we should find all that could be desired in the Works of the Egyptians.

If I have been correct in describing the characteristic and essential features of Egyptian Architecture, what can be more puerile and unsuccessful than the paltry attempt to imitate the character and form of their works in small and confined spaces; and yet, such is the prevalence of that monster, Fashion, and such the rage for novelty, that we frequently see attempts of this kind by way of decoration, particularly in many of the Shop Fronts of the Metropolis. Nor does this evil of applying without recurrence to first principles end here. The Egyptian mania has spread further—even our furniture is decorated with the symbolical forms of the religious and other customs of Egypt.

Grecian Architecture, which now claims our attention, owes its origin and perfection to causes very different from these already spoken of. The Greeks were the fathers of Science and of Art. Their climate, their laws, their mode of life, all contributed to gain them a superior rank in the higher walk of intellect. The principles of their architecture must be sought for in other prototypes than in those which gave birth to the great works of Egypt, India, and Persia. Heaviness and monotony must now give place to elegant conceptions, and correct conclusions, drawn from Philosophical reasonings. The Greeks, it must be admitted, cultivated Architecture so successfully that they left to succeeding ages only the humble task of imitating their works—works which will be ever admired, but perhaps never be equalled.

Greece abounded in Timber, proper for building, more than in stone and marble; and if we examine their early Works we shall see what effect materials had on their manner of building.

Their first dwellings were doubtless of the most simple kind—probably a few Trees, conical on the Plan, placed in the ground, reclining against each other, and meeting at their tops in a point, with merely a space left for entrance, and the rest of the outside covered with clay, leaves, rushes or reeds. Such most likely, was the extent of their first essays, not unlike what we see in our Hop Grounds wherein the Poles (at one time of the year) are set up preservation, and occasionally used for shelter.

The conical figure being found inconvenient, other insulated huts whose Ground Plan formed a square, or parallelogram, soon succeeded. A few trees, placed perpendicularly in the ground, and others laid across, formed the outsides and roof, and, like the former, were covered with reeds and clay. The roof being laid nearly flat soon admitted the weather. This inconvenience once felt, the active powers of the human mind soon suggested the idea of a more elevated or pointed roof, in which the origin of the Pediment, as well as other constituent parts of the succeeding Architecture of the Greeks, is easy to be seen.

Thus Huts were formed sufficiently capacious to receive a few persons; but, as families became larger, the buildings were necessarily extended, although the same manner of constructing them continued. The horizontal beams, in particular, being of course considerably lengthened, curved downwards and threatened ruin. A row of posts or supports however, placed from front to rear, dividing the entire space into two equal parts, removed the defect and gave security to the inhabitants. This mode of construction probably suggested the idea of that particular manner of using Columns, to be seen in one of the Temples of Paestum, and in an Egyptian Temple, of which I shall have occasion to speak hereafter.

A row of Pillars, dividing a large room into two equal parts, might be necessary for strength and security, yet the inconvenience and awkwardness of such an arrangement must have been soon seen and felt; and the transition to another — namely that of two rows of pillars dividing the room into three equal spaces — would soon follow. Three equal spaces were a great improvement on the first idea, but they did not give all the advantages required. Another alteration therefore succeeded by making the centre space considerably larger than the sides. This gave the idea of those beautiful Peristyles in Grecian and Roman buildings hereafter to be spoken of.

By increasing the dimensions of these early buildings we have seen one difficulty arise out of the great length of the horizontal beams, which has been removed by rows of posts placed under them from front to rear; but another difficulty arose from the increased magnitude of these habitations. The rafters, as well as the horizontal parts, were increased in length, and therefore wanted supports. These supports were placed immediately over the others, under the beams, and probably gave the first indication of Pillars placed upon Pillars; and in this early work we perceive the reason why the Greeks, faithful to their primitive Model, made the upper Pillars in the Hypaethral Temples so very short in proportion to those immediately under them. (*Plate* 4.) Of this disposition I shall have occasion to speak more at large hereafter. (*Lecture III, page* 55.)

Thus much for the origin, and progressive improvement, of the simple insulated Hut. If we now suppose it surrounded with a large area for convenience and security, as well as to determine the extent of each man's occupancy, and further suppose this space enclosed with a hedge, or wall, we shall then have the progressive state of primitive buildings.

From such simple ideas and almost imperceptible changes we owe all the beauty, scenery, and enchantment in the forms of the great Grecian edifices, whose stately structures, whose elegant forms and magnificent appearance have been for ages the delight,

wonder, and admiration of the most refined minds of all countries and will continue to be so long as any knowledge of pure Art remains, or superior intellect is cultivated and respected.

It cannot however be supposed that Grecian Architecture assumed at once the perfection which it attained in the time of Alexander the Great. There must have been many progressive steps between the primitive buildings and the Temples of Minerva in the Acropolis of Athens, the Temple of Theseus, and such like structures.

Yet the progress from the Hut to the elegant structure must have been rapid, for, to the honour of Architecture, it should be remembered that there was no town in Greece that had not some public monument frequently constructed with the most costly materials, and adorned with ornaments of the most exquisite taste and correct fancy. These superb Monuments, although we must not suppose all of them of equal importance and extent with the Temples just mentioned, were, when in their perfect state, a source of glory to the Greeks, and their invaluable remains serve us for models and cannot fail of exciting the most enthusiastic admiration. In these ruins we perceive those elegant forms and beautiful combinations which the most solid and correct judgment and the most refined taste could produce. (*Plate 5.*)

How much it is to be regretted that Wheeler and Spon were not architects. They visited Greece more than a century ago, when many buildings were in existence that are now entirely destroyed, and others were then of course in a much less dilapidated state. It is to the laborious accuracy of the classical Stuart and the indefatigable Revett, and their associates, that we are indebted for our knowledge of the remains of Grecian Architecture. Since their time, I regret to say, many of those glorious ruins have been entirely destroyed, some by the barbarous inhabitants of Greece, for ignoble purposes, and others, shameful to relate, have been first mutilated by mistaken zeal and the precious fragments afterwards conveyed to foreign climes.

When the Grecian States lost their liberty and became Colonies to their successful rivals the Romans, they likewise lost in a great degree their love for the Arts; but not entirely, so long as the Empire of their conquerors continued,—indeed Adrian found in Greece Artists that would have done credit to the best times of Athens and Corinth.

The buildings of ancient times shew the splendid effects of Architecture, and its power to affect the mind. They also show the prodigious attention paid to the Art—an Art of all others the most useful, the most costly, and the most laborious. The influence of Architecture on the minds of men appears to have been general in all ages. Not only Alexander, Pericles, Augustus, Adrian, and such wise Princes, felt its beauties and powers, but even the minds of Domitian and Nero were so occupied with it as to be frequently turned from the pursuit of their brutal and diabolical purposes,—indeed, their disgraceful and disgusting scenes of depravity were suspended whilst they erected works of such magnitude and public utility as would have done honour to the taste of Pericles or to the policy of Augustus.

When we reflect on the innumerable and mighty monuments which History informs us the industry of men have raised in all parts of the Globe, we are anxious to inquire into the causes that have operated so generally on the minds of Men to make such sacrifices to adorn their countries. We are filled with enthusiastic emotion at the amazing time and expense that must have been consumed, with the millions of money that must have been expended, together with the constant exertion of body and mind to produce such prodigious works—works whose very ruins fill us with respect and veneration for their Godlike founders; and if the ruins only of a small number of these mighty works produce such emotions, what would the sight of Nineveh, Babylon, Troy, Athens, and Rome have produced when in their most perfect state.

If the noble and useful Arts of Engraving and Printing had been known to the Greeks

and Romans what treasures we should now possess. The great works of Antiquity would have been familiar to us; we should have had the invaluable treatises on Architecture of those great men whose names alone are now all we know.

Vitruvius would not have been left to his Commentators: we should have had his full thinking. Alas! this is in vain. Let us therefore profit from the labours and zeal of those who have endeavoured to preserve and make us acquainted with the precious fragments of antiquity; let us tread in their paths; let us from their labours endeavour to discover the principles that directed the great artists of Antiquity; and when we have no remains of their splendid and glorious Works to direct our studies, and to animate our minds to exertion, let us consult the poets, historians, and orators, wrecks of whose works have happily reached us. From them we shall collect great and useful information such as will enlarge and exercise the minds of real Artists, notwithstanding what has perished of ancient works, from various causes; enough yet remains, if we have industry and application to make us acquainted with the grand, sublime, and beautiful in Architecture; enough yet remains to enable us to restore the art to at least a large portion of its ancient glory.

Yet with all these opportunities and facilities, many and very great sacrifices must be made to acquire superior excellence, which I trust the young Artist will readily submit to, when he recollects the honours that have ever attended high acquirements. That it was by the possession of great talents and probity that Dinocrates became the constant attendant on Alexander, and Apollodorus on Trajan. To the eternal honour of our Art let it be remembered that Semiramis made the plans and assisted in the execution of many of her great works, and that Pericles, Adrian, and many other great Princes of ancient times not only patronized and loved the Arts but many of them were themselves Artists. Indeed, in all ages and in all countries Architecture has been frequently practised and always encouraged by the most powerful princes and by the most able Statesmen.

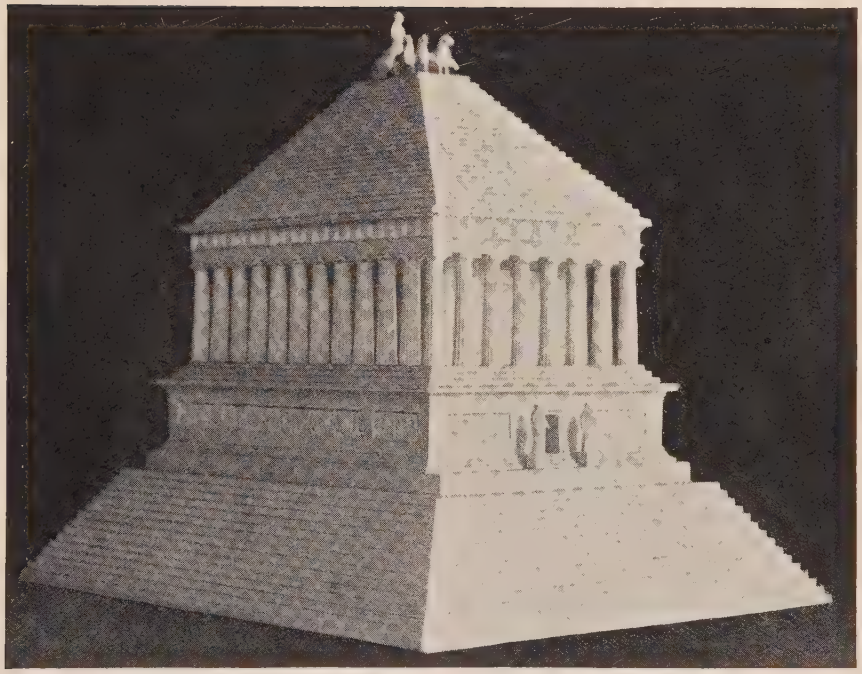
Let the young Artist treasure up in his mind the advice of the father of architects—namely, that he prefer a little with a good name to abundance attended with infamy. That he be docile and not intent on gain, that he wait until he be sought for, and not by intrigue attempt to grasp at everything. That he be extremely careful as to the expense of his works, and keep in remembrance the Ephesian Law, by which when an architect received the charge of a public building he was obliged to deliver an estimate of the expense, and to assign over his goods to the Magistrates until the work should be completed. If the expense agreed with the estimate he was rewarded with high and distinguished honours. If it did not exceed more than a fourth part, the excess was added to the estimate, and supplied by the Public; but if more than a fourth part was expended, his goods were most justly seized to make up the sum.

In this country we have long had too much reason to complain of mechanics of every description, from the bricklayer to the paperhanger, being identified with Architects; and, of what is equally fatal to the advancement of the Art, that architects, who ought always to be the intermediate persons between the employer and the employed, lose that high distinction and degrade themselves and the Profession by becoming Contractors, not only in the execution of their own designs but likewise those of others. Let our young Artists follow closely the precepts of Vitruvius, they may then reasonably expect that these and many other such evils will cease; that none but men of talents will be sought for; that their names will be transmitted to posterity. That our great Public and Private Works will no longer be entrusted to ignorant mechanics, nor our streets and public places disgraced by the errors of mercenary men, nor by the mistaken and ill-applied fancies of speculators, but instead of their abortions such edifices will be raised as would have done honour to Greece and Italy in the highest periods of their splendour and glory.

This Institution will, I hope and trust, ever stimulate the young Artists to high emulation and inspire them with a true regard for the Arts; and when we recollect the elegant fancy and classical purity displayed in many of those works for which premiums have been adjudged, as well as the great and progressive improvements so very visible in our annual exhibitions, we may with the Poet reasonably expect that

> "The time, not distant far, shall come
> "When England's tasteful youth no more
> "Shall wander to Italia's classic shore,
> "No more to foreign climes shall roam
> "In search of models better found at home."

END OF LECTURE I.



Mausoleum, Halicarnassus. A proposed Restoration

LECTURES ON ARCHITECTURE

By Sir John Soane, r.a.

LECTURE II.—ORDERS.

Mr. President,—In the First Lecture, the origin of Architecture, and the great works of different Nations until the time of the entire subjugation of the Grecian States by the Romans, were treated of, and the subjects were elucidated by drawings where any remains of the Works spoken of existed, in order to fix the attention of the Students and to make the stronger and more lasting impression on their minds. Drawings of buildings, however slight, give clearer and more permanent ideas than can be obtained from the most detailed, correct, and elaborate descriptions; on most occasions drawings of the objects are as much superior even to the best descriptions as Models are superior to drawings.

We must now follow the Arts into Italy. Rome, however, in her early ages gave no proofs of knowledge or regard for the liberal Arts. In the first six hundred years A.U.C. even their Temples were neither larger nor more magnificent than the private houses of the citizens. The Temple of Jupiter Teretrius, one of their principal divinities, built during that period, was only fifteen feet square; and according to Pliny, almost another century passed away before marble columns were used in any of the public edifices.

Conquest and plunder alone engaged their minds. The arts of war were all the Arts they thought of: indeed, so little were the fine Arts known or felt by the Romans that even when Mummius sacked Corinth and sent its spoils to Rome, he threatened those who had the care of the Pictures and Statues that if any were lost or purloined, they should produce him others. But when all Greece was completely reduced into a Roman Province, Architecture soon entered into the policy of the Romans, who,

> "Inspired by the study of the fine Arts
> "That civilise mankind"

caught from the Greeks the passion for erecting magnificent buildings for the honour of their gods, for the glory of their city and for the accommodation of their citizens. Thus, animated with the laudable design of transmitting the Roman name through the medium of Architecture to the latest posterity, "Cities rose on Grecian models formed," and so zealously was this object pursued that in the time of Augustus Rome, by the aid of Grecian Architecture, became a City of Marble.*

The immediate successors of Augustus, feeling the importance, and having likewise the great advantage of Grecian artists, continued to embellish Rome and other parts of Italy with the most splendid monuments of their power.

Nothing could surpass the splendour of the public and private buildings of the Roman Emperors. They were all crowded with the most exquisite Sculpture and Painting. Nor can this be wondered at when it is remembered that Egypt and Greece had been plundered of everything valuable that could be removed for the embellishment of Imperial Rome. We must also recollect the mighty resources of that extensive Empire as well as the anxiety of this powerful people to surpass all other nations in works of utility and magnificence.

* Indeed Augustus is said to have boasted that he found the seat of Empire a City of Bricks, and that he made it a City of Marble.

It must be added that their love for building continued in full splendour until the time of Diocletian. Taste, it is true, had declined long before his reign, but the passion for large and magnificent buildings remained, of which his Palace at Spalatro and his Baths at Rome are striking proofs. It is with pleasure we read of their great public and private works—their superb Temples, their Theatres, Amphitheatres, Triumphal Arches and Palaces, their Villas—more like Towns—their Aqueducts and extensive Baths, calculated not only for the purpose of bathing and exercises of every kind. They also contained Libraries of Books of all descriptions as well as spacious Porticoes and magnificent Halls wherein the learned read their compositions, harangued, disputed, and instructed the Roman youth.

Nor were the Romans satisfied with embellishing Italy. They erected trophies and superb buildings of every kind in all those countries which had felt the power of their arms, hoping to familiarize the conquered nations to their new masters by introducing among them Roman works and Roman manners, and perhaps it is to such influence, and to such motives that we are indebted for those great works the remains of which are yet to be seen in most of the countries which acknowledged the Empire of Rome.

Of the Temple of Solomon at Jerusalem, however, so completely have the Prophecies been fulfilled that not one stone is left upon another.

In the sacred writings and in the works of Flavius Josephus we find some partial, obscure, and contradictory descriptions of this famous structure.* From these data, Villalpandus,** a learned Father of the sixteenth century, has in three mighty folio volumes restored the whole building with all its most minute parts and decorations of every kind. The entire Ordonnance of this wonderful building he describes as Corinthian. If the zealous Father be correct in his conjecture, Callimachus must resign his long established claim to the invention of the Corinthian capital. This will not be easily admitted, at least by those whose minds have not been formed in the School of Villalpandus.

Notwithstanding all the light thrown on the subject by the enthusiasm, by the elaborate researches, great zeal and profound erudition of Villalpandus, I should doubt the possibility of tracing the most minute part of the Plan and superstructure of this once mighty Edifice with any degree of certainty; much less of delineating the appearance of the entire Temple in all its glory—nay more, I cannot conceive it possible for two persons, equally gifted, and equally anxious in their inquiries after truth, to compose from all the descriptions and aids now to be had even a Capital of the Order without deviating from each other in many essential and material parts.

Many ingenious men, visionary, and enthusiastic like Villalpandus, have exercised their talents in attempting to give an idea of the Temple of Solomon in its pristine glory; but having no other data beyond those Villalpandus possessed, however much we may feel inclined to praise their ingenuity, we can only consider their works, like those of Villalpandus, merely as flights of fancy, the off-spring of heated imagination. The Temple of Solomon is said to have surpassed, in magnitude, splendour, and beauty, every building that preceded it. Nor can this be wondered at when we learn from Holy Writ that the whole design was revealed by the Almighty Architect of the Universe, to that great and wise monarch in a dream. From all these circumstances the want of correct information respecting this wonderful building must be matter of serious regret, as this work alone would have been sufficient to guide us in our inquiries; but as we have no remains of this great work we must search the ruins of the great works of the Greeks and the Romans for information in whatever relates to Architecture.

Happily of the public and private works of the Greeks and Romans, enough is yet remaining to form our taste, to assist us in constructive knowledge, to enable us to appreciate their magnificence, and in many cases to determine their uses and extent.*

To the Orders of Architecture all buildings are indebted for the highest magnificence of decoration: to them the architect is obliged for many of the great effects in his art. The student must therefore be well

* We are told that the whole design of this fabric was revealed to Solomon in a dream, and we are further informed that he entrusted the execution thereof to Adonisam, the chief architect of Hiram, King of Tyre.

** *"Villalpandus, J. B.* Hieronymi Pradi et J.B.V., S.J. in Ezrechielem explanationes, etc., 3 vol. fol. Rome. 1596."

* Indeed one proof of the great excellence of ancient works is that frequently from very small remains, so well has character been attended to in every part, we are enabled to judge of the taste and destination of the Edifice to which they belonged.

By the knowledge and proper application of these treasures, the Architect will be enabled to show his superiority over the pretender to the Art; he will display the powers of Architecture, and by the taste and elegance of his works his name will be transmitted to posterity.

acquainted with all the varieties in the work of the Ancients, and acquire the fullest knowledge and most clear and correct ideas of their constituent principles. They form, as it were, his alphabet, and have indeed been by many considered as the standard of taste never to be altered; but were this opinion well founded there would be little study required to make an architect; the practice of Architecture would then be merely mechanical, little more than routine.

Of the Orders of Architecture there are three different systems :—

First : That of Vitruvius, taken, as he admits, from Greek authors.

Secondly : That which is founded on exact measurements of the ruins of the ancient buildings of Greece and Italy.

Thirdly : That system which we find in the works of the most celebrated artists of the 15th century, composed from the remains of ancient buildings, from the writings of Vitruvius, and from their own fancy, taste and judgment.

Most writers on Architecture speak of five Orders—the Tuscan, Doric, Ionic, Corinthian, and Composite—thus arranged in proportion to their character of strength and delicacy.

Vitruvius, the only ancient author on the Art, admits only of Four Orders—the Ionic, the Doric, the Corinthian, and the Tuscan.*

Indeed, when it is considered that every Order must contain a positive, sensible, and distinct character, and that each has its particular and characteristic parts, we can scarcely admit more than three Orders—the Doric, Ionic, and Corinthian. These three Orders perhaps will be found to express every quality that can be made sensible by Architecture. They have been generally supposed to have been invented, or at least improved from time to time by the Greeks; and these three Orders, although not of the same period, have been handed down to us in so perfect a state that all the ingenuity and powers of man have not been able to make any improvement therein, nor even to add a single member to either of them.

In the Orders we must be careful to distinguish those parts which are essential and have an immediate analogy with the primitive objects of imitation, from those which are introduced by necessity, by fancy, or by caprice. By these means we shall avoid all striking deformities, gross errors, and fanciful deviations.*

No. 1.—Every Order of Architecture consists of two principal parts—the Column, and the Entablature. The Pedestal can only be considered as an accessory, while the Column and Entablature are essential.

No. 2.—Each of these parts is again subdivided into three larger divisions :—that is to say, the Column its base, shaft, and capital; and the Entablature its architrave (called sometimes by Vitruvius "Epistylium"), its frieze (which he calls Zophorus) and its cornice. These are again subdivided into many lesser parts.

Although the Columns to the Orders are described to consist of Bases, Shafts, and Capitals, yet it must be observed that in most of the early and superior works of the Greeks, as well as in the best works of the Romans, the Doric Order is executed without a Base. Some have considered the suppression of the Base as sufficient to establish the antiquity of the Order; but that cannot be, for Columns without Bases were used in the time of Pericles, as well as in the most early examples.

I rather imagine the Greeks considered a Base to this Order as unnecessary, from the great superfices of the lower diameter of the Columns, which were always placed on a species of continued Stylobate, consisting of three steps, sometimes exceeding two feet in height—the whole proportioned to the great simplicity and massive character of this

* We are at a loss to account for this arrangement; it is neither according to the times in which the Orders were supposed to have been invented, nor agreeable to the different characters they were made to assume.

Editor's Note.—Choisy explains this from Vitruvius' use of Ionian Greek authors, and the possibility that he had campaigned in Asia Minor in the days of Julius Cæsar.

**Note.*—In the essential parts are the beauties.

In the parts introduced by necessity are the licences and deviations.

In the parts introduced by caprice are the defects. (See Laugier, p. 10).

Order, and better calculated to accord with the largeness of the other parts of the works than suitable to convenience.

The Shaft of the Column makes an essential part of every Order. Some suppose the idea of Columns to have been taken from the trunks of large trees; others from an assemblage of trees or reeds. This latter kind of column could only have been for decoration, and never for an original construction. In Grecian works the Column owed its origin to the rudely shaped timbers which were placed as supports to the roofs of the early habitations, and we shall likewise find Bases and Capitals owe their origin to early constructions in timber.*

According to Vitruvius, Columns derived their name from the word "Culmea," which signifies a part of the roof called by us "the King Post."

Bases, Capitals, and Entablatures are all formed by assemblages of different parts, or Mouldings, which are called the listel or fillet, the astragal, torus, scotia, ovolo, cavetto, cyma reversa, cyma recta.

The Fillet and Scotia are chiefly to separate other mouldings; to give grace and variety to the whole profile; and to prevent the confusion of joining several curved members together.

The Torus and Astragal are intended to bind and fortify the parts on which they are applied.

The Ovolo and Talon, being strong at their extremities, are used for supporting other members.

The Cyma and Cavetto are used for coverings to other mouldings, and are calculated to throw off the water.

These are all the Mouldings admitted into regular Architecture. They are either flat surfaces or composed of portions of the Circle or the Ellipsis. At first they may be described with the compasses, but when the student has attained a full knowledge of their powers, he should then draw them by hand to give them more grace, variety, and character.

Of these Mouldings, although almost endless combinations may be made, yet the application of them is not arbitrary. They cannot be used indiscriminately in buildings of every description, as many have imagined, and as has been too often practised, particularly in modern works: for the character of the Mouldings used in the different Orders and in different buildings must be particularly attended to, and must in all cases accord with the character of strength, or delicacy, richness, or simplicity intended to be produced.

Mouldings form a very important part of architectural decoration. By closely observing the superior elegance and variety of effect in the form of Grecian mouldings, over those used in the Roman edifices, and by contrasting the hardness of the square members with the softness and gracefulness of those which are curved,—by a judicious combination of both, elegant assemblages are formed which create in the mind that interest, that pleasing impression which all feel; whilst on the other hand the want of this knowledge of profiling produces dulness and insipidity.*

When Mouldings are enriched, great care must be taken to preserve a proper contrast between the several parts, for however great the opposition of figure, however great the degree of enrichment required may be, there must always be intervals, or plain parts, to produce the necessary repose, as well as to preserve the outlines of the forms enriched. Without this repose the very principle and essence of ornament is destroyed. Sculpture is to Architecture what lace is to dress: if it is judiciously introduced, it enriches and pleases by its contrast; if injudiciously, it only produces confusion, and disgust.

Thus we see in many of the cornices and other enrichments in the lower time of the Roman Empire, every member so profusely loaded with ornament that no trace of the outline is to be discovered; there is no contrast, no repose, and consequently the whole

* The origin of the Entablature was spoken of in the First Lecture, and was accounted for in the imitative system of the Greeks. So it is with the Bases and Capitals.

* The climate of Greece and the materials they used allowed of more delicacy perhaps in their Mouldings than we can use.

presents a mass of confused forms; whilst in the works of the Greeks the enrichments never produce confusion, but always increase the general effect of the whole composition.

The Art of Profiling and enriching the different assemblages of Mouldings, although now much neglected, is of the highest importance to the perfection of Architecture. Perhaps the mind of a great artist is never more visible to the judicious observer than in the practice of this part of his profession, for profiles and assemblages of Mouldings are in Architecture similar and of equal importance with those indiscribable elegancies in Poetry and Painting which are not always sufficiently felt or duly appreciated.

I shall now show how the component parts of the Orders have been applied according to the doctrines of Vitruvius, and also in the remains of the most celebrated Buildings in Greece and Italy, as well as in the works of the great Masters and restorers of Architecture in the 15th and 16th centuries, confining myself to general proportions and divisions of parts, referring for the details of each Order to the works of Vitruvius, Palladio, Scamozzi, Vignola, Alberti, and Serlio; likewise to the Modern Italian, French and English writers on the art, and particularly to an excellent treatise on Civil Architecture compiled by the late Sir William Chambers.*

The Doric Order is the most ancient, simple, and impressive, which the Grecian Architects improved from time to time. They became so much delighted with it that very little use was made of any other until the time of Alexander the Great.

According to Vitruvius this Order was first employed by Dorus, King of Achaia, in a Temple erected to Juno. From the labours of Stuart, Revett, and Le Roi we are enabled to trace the progress of this interesting Order in the Grecian Works. This Order may therefore be considered in different periods of its progressive improvement. (*Plate* 7.)

In the first state the Columns were about four diameters high, as may be seen in the ruins of a Temple at Athens, and in another example at Corinth. There is a third example at Paestum, where the column is $4\frac{1}{4}$ diameters in height. The entablature is somewhat more than 2/5ths the height of the column.

Of the second state, the Temple of Theseus, built ten years after the Battle of Marathon, is an example. The columns are very near $5\frac{3}{4}$ diameters in height, and the Entablature exceeds $\frac{1}{3}$ thereof.*

The Temple of Minerva, in the Acropolis of Athens, may be taken as another example. The columns are something more than $5\frac{1}{2}$ diameters in height, and the entablature is two diameters.** (*Plate* 8.)

The Temple of Augustus at Athens may be chosen for the third State.***

In this structure the columns are six diameters high, and the entablature is 2/7ths the height of the columns.

In these examples the transitions from heavy to light are extremely gradual and show by what slow and certain steps the Ancients proceeded. Even ages were necessary to enable the Greeks, with all their wonderful acuteness, to produce such models of beauty, harmony, and perfection which, notwithstanding the alterations and progressive improvements, still preserved most of the essential characters of the Orders. Let us be careful then how we deviate from them or adopt them improperly.

The Metopes and Triglyphs of this Order present many serious and some very considerable restraints to the Architect. To

* Died 14 years previous to the delivery of this Lecture.—*Editor's Note.*

* In this Temple the architrave, when compared with the small elevation of the cornice, is excessively high, and we also observe a triglyph is placed exactly on the angle of the frieze. In the profiles of this capital the mouldings under the abacus are different from the former examples and become more like the ovolo used in later times.

** A Triglyph, as in the last example, is placed on the extremity of the Frieze, and, in both, the architraves and friezes are on the same face with the lower diameter of the columns, and although the entablature is very high, yet the height of the pediment is only 2/15ths of its base, which indeed is the usual proportion for the height of the pediment in Grecian works. This proportion being established by the climate, the propriety added to its beauty.

*** In this building the Order begins to lose some of its original character of masculine robustness and unaffected simple majesty.

arrange these essential parts with correctness and taste requires great study and sound judgment. It must be remembered that they form the strong and marked features of the Order. The proportions of these parts are not arbitrary, for as the Triglyphs represent the ends of the beams or joists, they must therefore be made higher than wide. In like manner the metopes are to be square because the spaces between the joists ought to be of the same depth as the joists themselves.

The face of the Architrave was, by the Greeks, placed directly over the lower diameter of the columns, probably because in the primitive construction the uprights from which they took their idea of columns were of equal breadth at top and bottom. A triglyph is also properly placed at each extremity of the frieze, whereby if the metopes are all equal, as they should be, the outermost intercolumniation must of course differ from the others.

Vitruvius, to obviate this defect, and to make the intercolumniations equal, tells us that the metopes next the external columns of porticoes should be made wider than the others; but this perhaps only produces a greater defect, and is by no means satisfactory. Indeed, if we had not an example of this practice in the Temple of Concord at Agrigentum, the Text of Vitruvius might have been thought incorrect. A conclusion we are ready to admit when we cannot exactly comprehend his meaning, and thereby fall into the same sort of error as was made with another part of his Text, where he directs mutules to be placed not only over but also between each triglyph. This, the Commentators thought, could not be his meaning, and the Text accordingly proved a stumbling-block to them and was considered as totally impossible of conveying his meaning, until Stuart's delineations of the Grecian Doric Temples solved the difficulty and made the text of Vitruvius clear, for in all those works, mutules of equal breadths are placed over, and between, each triglyph.* (*Plate* 8.)

* It is curious to observe the different manner in which each different writer has twisted and tortured the Text of Vitruvius in order to establish the probability of his own hypothesis.

In the early works of the Greeks the metopes were left open, and it is to this practice that Euripides refers in the "Iphigenia in Aulis," where Pylades advises Orestes to make his way into the Temple of Diana through the open spaces between the Triglyphs; but in the later works of the Greeks, and in many of the Roman buildings the metopes are often enriched with sculpture.*

Vitruvius gives this Order without a base, and makes the column with its capital seven diameters high, and the entablature $\frac{1}{4}$ thereof. He also directs the face of the architrave to be placed over the upper diameter of the column, unlike the general practice of the Greeks. In one part of his works he directs the triglyphs to be placed over the extremities of the frieze, and in another part he says they should be placed over the axis of the column.

Beside the ancient examples of the Doric Order, already given, there are yet remaining in Greece, and in different parts of Italy, many others. At Cora, near Veletri, is a Temple to Hercules of this Order very inferior in its character to, and very unlike, those noble examples now remaining in Greece. The Order in this work has greatly degenerated by being transplanted :— manly robustness and severity have been entirely lost.**

At Albano is a building of this Order which has something of the simplicity of the Grecian Doric. The columns are without bases, and the shafts are plain. (*Plate* 8.)

There is also at Albano an Entablature of the Doric Order, worthy of attention. It is well conceived in a grand and majestic style.

The Doric Order in the Theatre of Marcellus is a noble example of elegant simplicity. The columns are without bases, the shafts are plain, and project from the wall only half a diameter. The column is

* Those who admit the excellence, but who wish to detract from the originality of Grecian Architecture, fancy the origin of the metopes and triglyphs to have been borrowed from Egypt, from a species of double frieze in a building at Tentyra.

** The columns have small bases, something like those of the Temple of Minerva at Syracuse.

7½ diameters high, and the entablature one quarter thereof. The architrave, unlike the practice in the works of the Greeks, consists of several parts. Dentils are likewise used in the cornice, the bed-mould of which only remains; enough of the Order however is preserved to give an idea of its original splendour and magnificence; it is a glorious example of the power of large and simple parts to affect the mind.

Some have ascribed the work to Vitruvius; but when it is recollected that he expressly forbids the use of dentils in this Order, and that all the proportions of this Work are unlike those directed by him, we can scarcely suppose it possible for it to be his, even if there were no other reasons against such a supposition.

The lower Order of the exterior of the Coliseum has been generally called Doric—a name it does not deserve, for the triglyphs and metopes of the frieze, and the mutules of the cornice, the great features of the Doric Order, are there entirely suppressed.

In the Baths of Diocletian is another example, full of enrichment in every part, and entirely destitute of that grand simplicity which the Order assumes in the Grecian works.

Many other examples might be produced, but these will be not only sufficient for my purpose, but as many as the time for one Lecture will admit of, and they show the great difference in the character and effect of this Order, as used by the Greeks, from the same Order as used by the Romans. In the former it was all true majesty and unaffected dignity. In the latter, it was capricious in the extreme, in some cases even uncharacteristically plain, and in others ridiculously enriched. The Greeks always adhered most zealously to their imitative system, whilst the Romans either did not know, or else disregarded entirely, the first principles which directed the minds of the former enlightened people.

Let us now see the Doric Order in the works of later times when the great restorers of Art under the auspices of the Leos and Medicis produced so many splendid monuments of their superior talents. For this purpose examples are selected from the Ten different Masters given in De Chambray's Parallel — viz., Palladio, Scamozzi, Serlio, Vignola, Barbaro, Cattaneo, Alberti, Viola, Bulliant, De l'Orme. Each of these authors has his particular merits; but Palladio, Scamozzi, and Vignola are superior to the others, and are consequently more entitled to the consideration of the artist.

Palladio has been called the Raphael of Architecture. In all his compositions there is a certain simplicity and character resulting from his close application to the study of the remains of ancient structures. He possessed many of the requisites to make a great architect, yet it must be observed that he had but few fixed principles, and seems to have been fully satisfied with following, both in public and private works, whatever he had seen in the remains of ancient buildings, not considering that what suited the solemnity of Temples, ill accorded with the cheerfulness of private dwellings; he therefore frequently falls short of our expectations.* (*Plates* 74-76.)

In the example he gives of the Doric Order, although it will be admitted that there is a certain grandeur and quantity, yet the whole falls very short indeed of what we have already seen. In the example before us ** he has triglyphs and metopes in the frieze, but in some of his other works he takes great liberties and omits them altogether, and introduces the heads and skulls of oxen, tied together with festoons of flowers. He also puts dentils in the cornice.

Scamozzi applied himself diligently in storing his mind with the knowledge of the antique, but he chiefly owes his reputation to the attention he paid to the works of Sansovino and Palladio. His book on the Orders of Architecture places him high in the estimation of architects.

His Doric entablature is superior to that of Palladio although the architrave is too high,

* The probable explanation of this curious opinion is Soane's rooted objection to the use of a Pediment except in buildings of primary importance or sacred character.—*Editor's Note.*

** The column with its Attic base is 8½ diam. high, and the entablature 3¾ mod.

the frieze too low, and the cornice is ornamented with dentils, which are not applicable to this Order.

Vignola pursued the same manner of study as Palladio and Scamozzi. He professes to have composed his Doric from different antique fragments. There is a peculiar grandeur and dignity in the whole design, and all the parts of which this composition is formed demand our decided attention.

In the works of these great men, and of others associated with them, as well as in the examples taken from the remains of the celebrated structures of Greece and Italy, we see many and essential deviations from each other, and, in the application of this Order particularly, we find many strange contradictions and many unaccountable deviations from the first principles by which the Greeks attained superior distinction. These I shall endeavour to reconcile and account for in the course of these Lectures.*

In the Ionic Order the severity of the Doric is softened into elegant simplicity, and like the Doric it rests on the imitative system of construction in wood. All the constituent parts may be found in the imitative system, although some parts of the original construction are here, as well as in the Corinthian Order, to a certain degree disguised. The great differences are first seen in the Capitals, then in the greater or less degree of elegance in the proportions, and lastly, in the greater or less quantity of ornaments introduced.** Vitruvius tells us that this Order owed its origin to the followers of Ion, who in a Temple to Diana copied the gracefulness of women, in like manner as they had before in the Doric Order adopted the robustness of men. They made the thickness of the column one eighth part of its height; thus, says Vitruvius, arose another species of decoration which was called the Ionic Order.*

The eyes of the Volutes are sometimes enriched with a small rose; in others we observe deep holes to receive ornaments used on particular festivals. The Abbé Winkelman speaks of an example of a frog and a lizard being introduced into the eyes of the Volutes as a monogram of the name of the Architect. A specimen of this kind of pun may be seen in the Abbot Islip's Monument in Westminster Abbey.

The Base assigned to this Order by Vitruvius is so contrary to every idea of beauty, fitness, and elegance that it might not have been incorrect to have supposed the Text much corrupted and the intention of Vitruvius misunderstood if we had not examples of such unaccountable compositions even in some of the remains of Grecian works.

It is true the Ancients have taken great latitude and shown uncommon variety in the composition of the bases to their columns. They are indeed without number. Besides those just mentioned I shall select some examples from different fragments of antiquity, many of which are so extremely rich, beautiful, and elegant, that we must admire them, although at the same time whatever their merits may be, it will be admitted that even their admirers look down upon them.

Of the Ionic Order, there are many considerable remains. The little Temple on the banks of the Ilyssus at Athens, so accurately described by Stuart is a beautiful example. Nothing can surpass the extreme simplicity and elegance of this composition. The

* In these examples the Doric Order is shewn in its different stages, from the earliest works of Greece and Italy, wherein the simplicity and correctness of the primitive models directed the minds of the great artists of those countries, unto its climax of richness and degeneracy in the Baths of Diocletian—a period wherein every idea of characteristic simplicity seems to have been entirely forgotten, and no recollection remained of this important truth—namely, that all the essentials of the Grecian Orders, more especially those of the Doric, might and must be explained by the imitative system of construction in timber.

** Ionic Capital Qua. p. 260.
Base. Vitruv. p. 78.
This Base would not be believed but for examples now remaining, like the mutules. Vitruvius tells us that the Greeks never used Dentils, under modillions, because the common or small rafters which are represented by the dentils can never be placed under the principal rafters which in like manner are represented by the modillions.

* The Base represented the shoe or sandal, the volutes the tresses of their hair, dropping to the right and left, and the channels in the shafts of the Columns designated the plaits of their gowns.
Notwithstanding the opinion of Vitruvius as to the origin of the volutes, it is probable that the idea of them was suggested by something the Greeks had seen in Nature, such as the Cornu-Ammonis. At least that is more likely than that the Egyptian Capitals with the heads of Isis should have given rise to this beautiful invention.

beautifully proportioned columns, the angular capitals, and simple entablature are most happy effects of the refinement and elegant taste of the enlightened people to whom this work owes its origin.*

To the extreme plainness and elegant simplicity of the Ionic Order, as used in the Temple just mentioned, may be contrasted the same Order in the Temple of Erecthus, Minerva Polias, and Pandrossus.

In this example the Base is Attic, without a Plinth, and it is to be observed that the thickness, or diameter, of the Column is varied in the different parts of this building in proportion to the greater or lesser spaces between them, agreeable to the doctrine of Vitruvius. This particular attention to optical effect at the same time shows the wonderful attention that the Greeks paid to every part of their compositions.

The Capital, which is of a singular and beautiful form, differs materially from any other in antiquity : it is much more decorated, and has been preferred to that described by Vitruvius.

The Architrave and Frieze are both remarkably high in proportion to the Cornice, which is very low, with a large projection; but the effect of the whole entablature is singularly striking.

On the model of the Ionic Order the Greeks erected many magnificent fanes, such as the Temple of Bacchus at Teos, of Minerva Polias at Priene, of Apollo Didymaeus near Miletus, of Diana at Ephesus, of Ceres at Eleusis, whose architects, Vitruvius tells us, wrote treatises on their constructions, all of which have perished. We must lament with the deepest regret, the loss of such invaluable manuscripts, but at the same time we have great consolation in reflecting that fragments of these sublime Works yet remain. Our satisfaction is nevertheless much lessened and our indignation roused when we are told that Turkish gravestone makers, and mistaken connoisseurs, are daily destroying these beautiful ruins.

The Romans also made considerable use of this Order, of which the Temple of Fortune Virilis is the most ancient example now remaining in Rome; but as it is built with coarse stone, and most of it has been covered from time to time with stucco, we cannot place any great dependence on the correctness of the contours of the mouldings; yet Palladio and P. Ligorio speak much in praise of this edifice. The frieze is remarkably high, very much enriched, and the cornice is composed of many small parts.

Here we have an example of the great difference between the height of the Grecian and Roman Pediments, arising out of the dissimilarity of climate.

The Ionic Order of the Theatre of Marcellus is placed over a Doric Order, and the Cornice (of which only the bed-mould remains) seems proportioned, not to the height of the semi-columns, which support it, but to the height of the entire building.

In the Ionic Order of the Baths of Diocletian, the Architrave is very high, the Frieze is swelled, and the cornice is much higher than in the Grecian examples. The whole Entablature, although profusely enriched, is too masculine, and in that respect more fitted to the Doric than Ionic.

The Temple of Concord is likewise of this Order. The architrave is omitted to make room for an inscription, and modillions and dentils are introduced in the cornice. These modillions are of large parts, and of course they produce broader shadows and give more effect and movement to the cornice than dentils; and if modillions are used with this Order they should be accompanied with the capital of Michael Angelo, or Scamozzi, but we must remember that dentils and modillions are not to be used arbitrarily.*

I shall now show examples of the Ionic Order from the Ten Masters in the Parallel of De Chambray. (*Plate* 9.)

In the composition by Palladio the Cornice is bold, and well fitted for external decora-

*Of the Entablature, graceful beyond measure, we must not however judge from seeing it placed over flimsy Pilasters and heavy plain moulded capitals, of which this Metropolis has several examples. This is barbarous, and only to be equalled by the still greater barbarism of the Turks who, ever since Mr. Stuart's visit to them, have destroyed the whole edifice, merely to convert the materials into lime.

**Note.*—Of the Colosseum, the volutes of the capitals are not traced out, nor the echinus cut, nor are the mouldings of the cornice finished.

tion. The architrave has great merit, but the low and swollen frieze is clumsy, inelegant, without any pretensions to true taste, and is unsanctioned by sound judgment, although it is often seen in the later works of antiquity.*

Scamozzi has made the architrave too high, the frieze too low, and the cornice not high enough, with too many members—better calculated for internal than external decoration.

The Capital of Scamozzi, however, demands our attention. It differs from the antique, and also from his contemporaries. The four faces are all alike, and it has been frequently executed with great success.*

Vignola's Ionic is inferior to his Doric, although he gives it as an imitation from Vitruvius.

The other examples are sufficiently explained by an inspection of the drawings.

The Corinthian Order makes the Grecian Architecture complete. The Doric and Ionic convey correct ideas of masculine strength and female gracefulness, and in the Corinthian we trace the highest degree of elegant decoration that Architecture can produce. It is delicate, gay, and impressive. Art cannot go beyond the Corinthian Order. The whole composition is of the most correct proportions and of the greatest variety. Its members are enriched with ornaments of the most exquisite fancy and chaste selection.

The Capital of this Order is of peculiar and enchanting beauty. It is really fascinating. It owes its origin, according to Vitruvius, to the following circumstances :—

A Corinthian maid, on the eve of marriage, was seized with a disorder and died. After her internment her nurse collected and disposed in a basket those trinkets which best pleased her when alive. She carried the basket to the tomb, placed it on the top thereof, and covered it with a tile that it might not be injured by being exposed to the open air. The basket chanced to be placed over the root of an acanthus. The leaves and stalks, in the spring season, issued outwards, and grew round the sides of it, and, being pressed by the weight of the angles of the tile, convolved at the extremities. Callimachus, happening to pass by the tomb, observed the basket, and, being pleased with the delicacy of the foliage growing round it, as well as with the novelty of the whole form, caught the idea, and from this model composed a Capital, which being first used at Corinth was therefore called the Corinthian capital.

Some have supposed this account to be a fable and that the Greeks stole the idea of their capital from the Egyptians. The Egyptian capitals, however, show very little resemblance to the composition of Callimachus, except in the Bell shape; and if we compare the poverty and tameness of the first with the grandeur and expressive elegance of the latter, it cannot be seriously supposed that the one was copied from the other. If we consider by what slow steps men attain perfection, even in a very limited degree, and that Painting, Sculpture, and Architecture were allowed in all ages to keep pace with each other, then from what we know of the knowledge and taste of the Egyptians in the two first Arts, we can scarcely think it possible for them ever to have reached the sublimity of the Capital of Callimachus. At all events, there is something so poetical, and so truly interesting, in the supposed origin of this capital that we must lament that any attempt should be made to shake its authenticity, particularly when the fable (if you please) has existed so long, and when the attempt to destroy it is so very weak, and the case so little made out to our satisfaction.

Those who never felt the beauties of Grecian Architecture cannot be expected to appreciate its merits, and may sneer at the absurdity, that they think they have discovered in the use of the Corinthian capital, which they represent as a basket of flowers applied to the support of a massive entablature. Had these critics gone a little deeper they would have perceived that the Bell is the real pillar of support to the Entablature. This appears distinctly marked between all the great divisions of the leaves, which in

* Palladio has made his column 9 diam. high, and the entablature is somewhat more than $3\frac{1}{2}$ modules.

* Scamozzi makes the column $8\frac{1}{2}$ diam. high, the entablature 2/5ths thereof. I cannot think the essential parts of this capital unknown to the Ancients.

themselves are merely decorative—nay, the Abacus itself even to the most fastidious must appear to have very sufficient support from the large volutes which otherwise adorn the Bell of the Capital.

If Pythagoras offered an Hecatomb of Oxen to the immortal Gods for having enabled him to produce the famous proposition (the 47th in Euclid's First Book), what sacrifice must Callimachus have made for such wonderful favour as led him to the invention of the most beautiful and complete Ornament that Antiquity can lay claim to?

In the porch of the Tower of the Winds is a faint example of the Corinthian Order. The Columns are without Bases, and the singularity in the flutings is puerile and bad. The Cornice has dentils, instead of modillions, very unlike the other correct and elegant productions of the Greeks.

Of the Corinthian Order there are many examples in the remains of Grecian Buildings.

In the Lanthern of Demosthenes the Order, although very light and fanciful, is extremely licentious; the dentils in the Cornice are misapplied, and the whole composition is only adapted to small works.

In the Temple of Jackly is another example of this Order. The base is beautiful, the Capital much superior to the former, the Architrave is loaded with small members, the Frieze swollen, the Cornice poor, and, like the others, has dentils. (*Plate* 10.)

The Stoa, or Portico, at Athens, described by Stuart, presents another example of the Grecian Corinthian Order. The Abacus of the capital is pointed, and there is a kind of modillion in the Cornice.

It must be acknowledged that all the Grecian examples of this Order, now remaining, are very inferior to many in the Buildings of Italy. But in judging of the Corinthian Order from what is now remaining in Greece, let it be remembered that it was at Corinth that Callimachus exerted the mighty powers of his mind in adorning his native city with the most superb monuments of refined taste. When this city was taken by Mummius, the Romans, possibly struck with the elegance of the works of Callimachus, feeling at the same time the difficulty in the execution of the Capitals, and other enrichments, might probably have removed them as they did the obelisks from Egypt, and it is perhaps chiefly to that circumstance that the examples of the Corinthian Order now remaining in Greece fall so very short of that characteristic variety, sublimity and perfection of the other Orders. Indeed when we examine the Corinthian Order in some of the buildings of Italy, the most zealous admirers of Grecian Art must give them a decided preference, and admit, judging as we must of the Corinthian Order of the Greeks from their works now remaining, that the Romans far surpassed them; but at the same time it must be recollected that the works referred to, although erected in Italy, were produced by Grecian artists.

From the ruins of ancient buildings in Rome several drawings of the Corinthian Order materially different from each other in many essential parts will be now shown.

In the Portico built by Augustus in honour of his sister Octavia, the Entablature is of the plainest kind. Neither dentils nor modillions nor any other embellishments are to be seen in any part of the Entablature.

In the Temple of Antoninus and Faustina, the Cornice has neither dentils nor modillions, yet it has many beauties, although not quite applicable to this Order; but it must be observed that the extreme plainness of the Architrave does not in any degree harmonize with the beautiful capital and the highly enriched Frieze and Cornice.

In the Temple of Vesta, the columns are uncommonly slender. They are very near eleven diameter high, and the abacus of the Capital is very weak in appearance being continued to a point, as in most of the Grecian Works. The ruins of this Temple present an idea of peculiar elegance and rich taste, and make us lament the entire destruction of every part above the Columns.

In the Temple of Mars the Avenger the Columns are beautiful, the execution of the Capital and Architrave is most exquisite; the Frieze, as in most of the best examples of Antiquity, is flat. Of the Cornice there are no remains, and a large part of the Column is entirely buried. So much taste in the

composition, and such correctness in the execution, make us lament the loss of any part of this exquisite work.

In the Garden of the Colonna Palace are some fine remains of prodigious magnitude and uncommon grandeur, from which this drawing has been made. In the Cornice is a kind of double modillion very like what has been shown in the Order of the Stoa at Athens.

The Corinthian Order in the Portico of the Pantheon is extremely beautiful. The Architrave and Frieze are of great height; the Cornice has modillions, but the Dentils are not cut. The Order of the interior is also Corinthian, and by its grandeur keeps up the interest created on viewing the external Order.

The Corinthian Order of the Temple of Jupiter Tonans is grandly conceived and finely executed. The height of the architrave is about $\frac{1}{8}$ part less than the Frieze, and the Cornice, with its Cymatium, is about a quarter part higher than the Frieze. In the Cornice are dentils and modillions, and in this example the Romans began to deviate most materially from the practice of the Greeks.

But of all the examples of this Order now remaining, that of three Columns in the Campo Vaccino, supposed to have been a Temple to Jupitor Stator, is the most sublime and awefully grand and impressive, whether we consider the excellence of the execution, the largeness of its general parts, the uncommon taste and elegance in the various enrichments, or the great breadth of light and shadow of this noble composition. The transition from one beauty to another is so great that we forget the impropriety of modillions and dentils being found in the same Cornice, and we are lost in silent admiration of its uncommon beauties. The Capital also of this stupendous work keeps pace in beauty and effect with the other parts of the Order; it is full of originality and peculiar grace; the effect of the Calicoli, entwined in each other, is uncommonly beautiful, and highly rational, whilst the playfulness of the ornaments rising between them and the volutes which support the abacus cannot be sufficiently admired.* One Lecture would be too short to point out the beauties of the entire composition. (*Plate* 10A.)

Of this mighty fabric only three columns and the entablature over them are now remaining. All lovers of Art must regret its buried and dilapidated state.

The last example shows what may be produced by exquisite taste and correct combination assisted by quantity. I shall contrast with this another example of the Corinthian Order, in the little Temple at Tivoli, which although of very small dimensions, compared with the last examples is perhaps equally interesting from the singularity and charming effect of most of its parts, particularly those of the Capital, which is of very singular fancy and invention. The architrave is plain, one face whereof is omitted to make room for an inscription. The frieze is enriched with festoons of flowers passing over the heads of bulls, whilst the cornice is quite plain without either modillions or dentils. Yet the uncommon taste, lightness and elegance of every part of this beautiful composition has never been surpassed, nor can be sufficiently admired.** (*Plates,* 25, 101.)

The building affords many proofs of the inaccuracy of Desgodetz, which it is the more necessary for me to notice to prevent the young artist from placing too great a confidence in his representations, which he might be led to do, from observing every page filled with pointing out the errors of those who preceded him.

From the different examples of the three Orders produced this evening, it must have been seen that in the best works of antiquity the Doric Cornice is distinguished by its mutules, the Ionic by its dentils, and the Corinthian by its modillions.

In the various examples of the Corinthian

* According to Desgodetz, the columns are considerably buried, the architrave and frieze are each 3 ft. 5⅜ ins., and the cornice, which is only in two pieces, is 5 ft. 11 ins. high, making the height of the whole entablature 12 ft. 9¾ ins.

** The diameter of the column is 2 ft. 6 ins.; the height of its shaft, including base and capital is 23 ft. 4½ ins.

The Temple is wonderfully adapted to its situation; it is circular, its columns are short, only 9½ diam. high; their capital low.

entablatures selected from the remains of Grecian and Roman magnificence we perceive such material deviations in the general proportions, and even in the essential parts and characteristic decorations, that it would be impossible to persuade ourselves that such very rich and such very plain, such very light, and such very clumsy compositions were ever intended to have been placed over Corinthian capitals, if the examples were not still in existence. Yet however great and unaccount- these deviations may appear, I shall now show three other examples of still more strange and extraordinary composition.

The first is in a Triumphal Arch at Aousti in Piedmont, where triglyphs of the Doric Order are placed over columns whose symmetry and capitals are Corinthian.

The second, at Tarragona, at the Tomb of the two Scipios, where Doric triglyphs are placed over pilasters with Corinthian capitals.

The third, at Agrigentum, at the Tomb of Theron, Doric triglyphs are placed over $\frac{3}{4}$ columns of the Ionic Order.

It may perhaps be said that these examples are the works of bad times, composed of fragments taken from the ruins of ancient buildings. Every age has produced bad artists, and ignorant imitators, men who preferred novelty to any other consideration—like the architect of the Church of S. Romolo at Florence, who being desirous to surpass all his contemporaries made the bases of his columns similar to the capitals of the Ionic Order. I can readily suppose that men who lived in the early ages before Architecture attained the polish and purity of the time of Pericles, that men who lived antecedent to the age of Augustus, might have been ignorant of many of the essential parts of the Orders, but that architects of the Augustan age should have been so very uninformed as to have blended the essential parts of the Orders so strangely together is not to be credited, and yet Vitruvius, who has been generally supposed to have lived in the time of Augustus, or of Titus, tells us that "Corinthian columns are of the same proportion as the Ionic, but that the members which are placed above the column are taken either from the Doric or the Ionic Order, for the Corinthian Order has no cornice or other ornaments peculiar to itself, but it has either triglyphs and mutules in the cornice and guttae in the Epistylium, as in the Doric manner; or else according to the Ionic manner, the Zophorus is ornamented, and dentils are placed in the cornice, so that by these two Orders—i.e.., the Doric and Ionic —joined with a different capital, a third Order is produced." *

Such is the description Vitruvius has given us of the Corinthian Order, and it must be here noticed that it corresponds most exactly with two of the last examples—the Arch at Aousti and the Tomb at Tarragona.

If Vitruvius lived, as has been generally supposed, either in the reign of Augustus or of Titus, it is impossible not to feel considerable surprise at his description of the Corinthian Order, so unlike what it was in the Buildings erected in the periods just mentioned. If the Corinthian Order, as practised by the Romans in the time of Vitruvius, answers to this description of it, how is it possible to suppose that he flourished in the time of Augustus?

On this point many learned men of different countries have exercised their minds with great ingenuity, and they have generally concluded by placing him, as before mentioned, either in the reign of Augustus or of Titus. For each of these conclusions they have assigned their reasons; but perhaps, after all that has been said, the most certain, at least the most probable, mode to establish the particular period in question would be by ascertaining the precise state of the Arts in general, and of Architecture in particular, in the age of Augustus, and then compare the practice of that period with the doctrine of Vitruvius.

It has been generally admitted that many buildings of the Corinthian Order — the

* Now how is it possible to suppose this to have been the language of an architect who lived in the time of Augustus, during whose reign not only the Portico of the Pantheon was built by Agrippa, but also the Temple of Jupiter Stator, Mars the Avenger, and many others in which the Corinthian Entablature, as shown in different drawings this evening, assumes a decided and characteristic form totally different from the other Orders, and surely Augustus might have been complimented without any imputation of vanity on the magnificent and elegant works of his son-in-law

Temple of Jupiter Tonans, Jupiter Stator, Mars the Avenger, and many others whose ruins are yet to be seen, were erected in or about the time of Augustus, and the Portico of the Pantheon was without contradiction of that date. All these buildings were of the Corinthian Order of the most exquisite execution and design. Their entablatures, as shown in the drawings this evening, instead of being compounded indiscriminately of the Doric and Ionic according to Vitruvius, on the contrary assume a decided and characteristic form, totally different, in many of the most essential parts, from the other Orders. With these data how is it possible to reconcile the text of Vitruvius with the sentiments of a writer on Architecture of the Augustan Age, and that writer, not only an architect, but one that professed to compile a complete Treatise on the Art, founded on the works of the Greeks. These circumstances are, with me, conclusive as to his not living in either of the reigns before mentioned. In what age he did live I leave to be determined by those who have more leisure and ability for such discussions than myself.

Having in the source of this Lecture spoken of Villalpandus, who in his great work on Solomon's Temple, has given us his ideas of the Order used in that edifice, I have made a drawing thereof for the satisfaction of my curious auditors. It must be admitted that there is a peculiar grandeur in the composition; at the same time there is that strange mixture of the Orders which neither the text of Vitruvius nor the three ancient examples last produced will justify or render tolerable to minds accustomed to judge of Architecture from the pure sources of Grecian excellence.

I shall now proceed to show examples of the Corinthian Order from the Ten Masters in the Parallel. (*Plate* 12.)

In these examples of the Ten Masters we find the same or even greater dissimiliarity than in the Doric and Ionic Orders of the same Masters.

Palladio sets out with declaring his full approbation of the Order of the three Columns in the Campo Vaccino. He observes that all its parts are beautiful in form, correct in proportion, and combined with a thorough knowledge of composition and effect. Yet with this opinion, in the example before us, there is no resemblance to the perfection of this work.

Scamozzi makes his Order higher than Palladio, but falls short of him in merit. The lower part of the frieze being connected with the architrave by a curve, separated from the cavetto of the Architrave by a small fillet only, produces a degree of confusion.

In Vignola's composition there is grandeur, he having closely studied and happily blended and combined the beauties of the antique, and the results of his exertions are commensurate and most happy. His general proportions are taken from those of the three colums in the Campo Vaccino. Indeed, upon the whole, on this trial, he has been more successful than either of the preceding Masters.*

Alberti, following the Text of Vitruvius and the example of the little Temple at Tivoli, has made the Capital to his Order only one diameter in height, and in the cornice he has omitted the corona, as in the Temple of Peace. Alberti's Treatise on Architecture, written expressly to rival Vitruvius will be read by the student with advantage.

I have pointed out many of the prodigious differences in the proportions and combinations of the parts of the several Orders as used by the Ancients.

In the Orders likewise, as given by the Modern Masters, we find material deviations from the practice of the Ancients.

The fact is that modern artists have often copied and applied whatever they found in the works of Antiquity indiscriminately, whether good or bad, without considering or examining the principles by which they were produced, oftentimes confounding together the works of different and remote ages as well as the works of different character, unmindful that every architect was not an

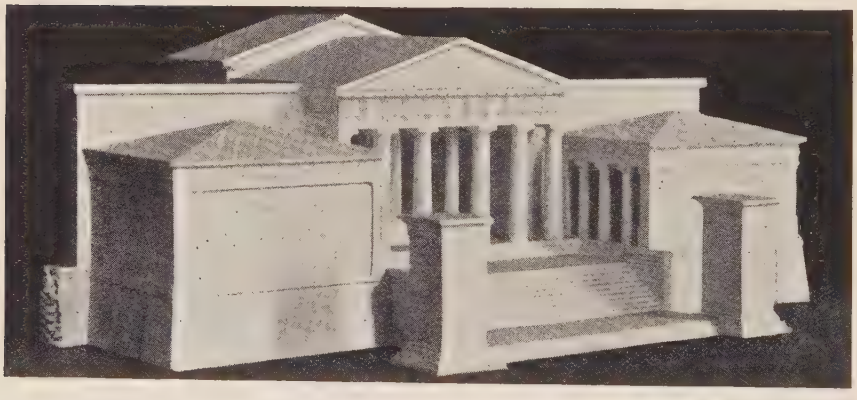
* Vignola gives to his column 10 diameters, and to his entablature 2⅔ thereof.
Palladio makes his column 9½ diam. high, and his entablature 1/5th of its height.
Scamozzi makes his column 10 diam. high, and his entablature 1/5th.

Hermogenes, a Dinocrates, or a Ctesiphon; no more than every Painter was a Zeuxis, a Protagenes, or an Apelles; or every Sculptor a Glycon, a Phidias, or a Praxiteles. Every age has had its Borrominis, its Vanvitellis, its Fugas, who bewildered themselves with childish conceits, which others blindly following, error was heaped upon error, and conceit upon conceit, until the first principles of Art were totally lost, and every idea of good Architecture sacrificed at the shrines of whim, folly, and caprice. Custom is as necessary in Architecture as in Painting, and if we were accustomed to reason closely and to criticise seriously we should feel, and be as much displeased with, the impropriety of placing Corinthian columns and statues in the front of a prison as with the picture of a Painter who had clothed the figure of a Grecian sage with the motley jacket of a merryandrew.

The varieties and seeming contradictions in the great and component parts of the Orders may be at first discouraging; but let not the young Artist be dismayed with difficulties; rather let him consider them as the means of calling forth all the energies of his mind, all the powers of his imagination, and the exercise of his judgment.

In the course of these Lectures will be shewn the causes to which these great varieties in the Orders, as used by the Ancients, are to be attributed, and that such variations are not always the result of mere chance or caprice, but are frequently produced by sound judgment, correct reasoning, and deep reflection on the great principles of Art; and I shall zealously strive to convince the student that all the great principles of Art, whether decorative or constructive, are alike founded on a close imitation of the works of Nature, and on the immutable laws of Reason and of Truth.

End of Lecture II.



Propylea, Athens

LECTURES ON ARCHITECTURE

By Sir John Soane, r.a.

LECTURE III.—ORDERS.

Mr. President,—Having in the last Lecture shown many different examples of the three Grecian Orders, the Tuscan and Composite are now to be considered.

It has been generally supposed that the Tuscan Order was first used in the Grecian Colony of Etruria. It is also recorded that in the very early period of Rome the Etrurians had so much distinguished themselves by their taste, and knowledge of the Arts in general and of Architecture in particular, that when Tarquinius Superbus proposed to erect a Temple to Jupiter, workmen were procured for that purpose from Etruria, Rome not possessing at that time any competent to the undertaking.

The buildings wherein the Tuscan Order was used, being from necessity constructed chiefly of timber, we have no remains of them; and it is therefore to Vitruvius that we must refer for information on the subject as far as relates to the entire Order. According to this great Architect the Tuscan column should be 7 diameters high, and the diminution one fourth part of its diameter. Over the columns beams, or architraves, are to be laid of the same thickness as the Hypotrachelium at the top of the Column; and over these beams mutules are placed projecting one fourth of the entire height of the column. This great projection for a long time perplexed all his Commentators, and many ingenious suggestions were unsuccessfully formed to reconcile the text of Vitruvius with their different ideas of his meaning. Inigo Jones, however, in the Church of St. Paul, Covent Garden, has fully explained the intention of Vitruvius and established the correctness of his text. The proportions used by Inigo Jones in this justly celebrated work correspond most admirably with the precepts of Vitruvius. (*Plates* 13-14.)

The Composite, or Roman Order is now to be considered. The Arch of Titus in Rome offers one of the best examples of this Order, whose origin is thus related; Titus having taken Jerusalem and destroyed the Temple of Solomon, the Senate and People decreed a Triumphal Arch to be erected on the occasion. To make this honour still more important the building was to be adorned with a new manner of building, which their vanity called the Roman Order, although in fact the Capital was little more than a clumsy mixture of the Ionic and Corinthian, and the whole of the Entablature in its character and proportions was merely borrowed from the Corinthian Order.*

The next example of the Composite Order is taken from the Baths of Diocletian, wherein the parts are still more enriched.

These two examples are sufficient to show how completely the Romans failed in the attempt to produce a new Order, and from what has been said respecting the composition of the Greek Orders, I think it will be in vain to seek for any addition to their number. There may be, as in colours, many shades of difference, very visible to the eye of taste and feeling, yet we can scarcely admit the number of the Greek Orders to be increased, either by capitals of a different kind, or by altering their general proportions, or by omitting some parts and transposing others. All such partial changes in the com-

**Note.*—This Order, however inferior to that of the three Columns, is certainly more worthy of attention than the Corinthian Order of Vitruvius, consisting of an architrave, frieze, and cornice taken indiscriminately either from the Doric or Ionic, and placed over a Corinthian capital. Hence it follows, either that the Text of Vitruvius must be grossly corrupted, or he must have lived long before Art attained the perfection of the time of Augustus, or else so long after that time that all traces of good Architecture had been lost in the barbarism of the dark ages.

binations of the Mouldings and other ornaments are more likely to spoil the effect of the original design and render the sensation of the whole composition more feeble. This, however, was all that the Romans did in forming what they called "the Roman Order."

Respecting this attempt of the Romans to produce a new Order, Vitruvius, who by many has been supposed a native of Rome, is completely silent. It has been generally supposed to be important to Art to know in what age this great Architect flourished. In the last Lecture I gave my reasons for supposing that he did not live in the reign of Augustus, and, had he been contemporary with Titus, it is impossible that this great effort of the Romans to produce an Order of their own should have been unnoticed by him.

The *ignis fatuus* of Philosophy was the discovery of the Philosopher's stone — with Architects it has been the invention of new Orders of Architecture to rival those of the Greeks. The Romans set the example, and some of the Architects of the fifteenth and sixteenth centuries, not satisfied with their fruitless attempts, amused themselves most unprofitably with this visionary phantom of the brain. From them the rage showed itself in France, in the reign of Louis the Fourteenth, where the feeble efforts of the French Architects had still less pretensions to originality and ingenuity.

I wish the mania had stopped in France, but the cacoëthes for producing new Orders has reached this country, and we have also had many attempts to attain that object. I shall only notice two of them.

In a work entitled *"A Proposition for a New Order of Architecture,"* the Author, after speaking of the feeble, injudicious and unsuccessful endeavours of those who preceded him, treats us to what he calls a Sixth Order, "*absolutely new in its proportions, its ornaments, and all its parts, the whole forming a composition suitable to the glory of his country.*" Such is the author's description of this singular composition, the effect of which may be seen (however incredible it may appear) in an expensive Villa, with a large Portico of this Order, that has been erected in the neighbourhood of Windsor.

Another specimen of a new Order in this Country owes its rise to the following circumstances. About forty years ago a Monsieur de la Roche (a priest I believe) discovered, like some of our mechanic architects, that it was from "self-taught" and not, as he calls them, "mere bred architects," that Art must receive every considerable improvement. He further discovered "that the man who could not do anything without studying the Antique remains would never do anything great, even were he to pass three-fourths of his life in the contemplation of the ruins of Antiquity." Fired with these ideas the visionary Priest turned his mind to Architecture, and having composed an Essay on the subject, in one moment, in the next produced a new grand Order, which he called "the Britannic Order." The invention of this Order he ascribes to an incident in English history, far more inviting, says he, than even the basket of Callimachus. "In the reign of Edward the Third, the Prince of Wales, at the Battle of Crecy, amongst other successful darings, killed the King of Bohemia and took his banner, whose ensign was the Royal Diadem of Bohemia with three ostrich feathers placed in it. With this princely badge," says M. de la Roche, "I adorn the capital of my new Order, and in Nature nothing can be more fit for the purpose. The feathers, bending tenderly in the manner of volutes, give it a superior delicacy to the Corinthian capital, and from this delicacy in the Capital, and the nobleness of its original, it must rank above the gorgeous Corinthian." From this description it appears that Monsieur de la Roche had read not only English history, but also the late Mr. Hogarth's "Analysis of Beauty," in which work it is "gravely asserted that a capital composed of the forms of Hats and Periwigs in a skilful hand might be made to have some beauty." M. de la Roche further tells us that he has made this composition a real Order of Architecture, different from any other in all its parts. This "new Order," says the reverend and unassuming Priest, only wants antiquity; and

when hereafter it is found among ruins, it may then perhaps please many whose genius would have condemned it at its birth. He then modestly adds: "The present age may not have sufficient liberality to approve my design, but posterity will most certainly do it justice." If M. de la Roche had recollected the conduct of Michael Angelo he need not have waited for the praise of posterity. It is related of that great artist that having made a statue of Bacchus he broke off one of the arms, which he retained in his studio, burying the other part of his work in a place that he expected soon to be the scene of exploration, which accordingly happened, and the mutilated status being then found, it was supposed to be an antique, and was sold to an eminent connoisseur of that day for a very large sum of money. Michael Angelo then produced the arm and triumphantly claimed the whole work as his own. Had this contrivance occurred to M. de la Roche he might most easily have made a small model of his great work, and having buried a part of it (Blank in original) or in the environs of Bath, it might then have been there found with tessalated pavements and other valuable fragments, to the inexpressible delight of the antiquarian. When ushered into the world by the man of superior skill, with elaborate descriptions of its beauties and splendid engravings, M. de la Roche might have produced his fragment, proclaimed himself the Author of the work and have given full scope to his vanity. M. de la Roche, however, was no Michael Angelo, and his great work, instead of obtaining for its Author immortal fame, agreeably to his expectations, has long since been consigned to oblivion. His contempt, however, of "mere bred architects" has been adopted by another self-taught architect, who tells us "he was obliged to relinguish the practice of a favourite profession and to sink into a mere architect because he found architects in general such dull, ignorant, and obstinate animals as could neither comprehend nor do justice to his decorative powers." I am led to expect from these general and harsh epithets that this last gentleman's ideas of the professors of our Art arose from his habits of intimacy with ornamental plasterers and speculative architects, for I am sorry to say we have but too many of that description of self-constituted artists.

I trust these examples will be sufficient to satisfy us of the imbecility of the attempts, and the folly of endeavouring to produce new Orders of Architecture capable of vying with those of Antiquity. Let it not be supposed that I wish to discourage the creative flights of real genius—its efforts, when properly pursued, lead to fame and fortune.* The beautiful capital in the drawing before you is so well conceived in all its parts, and so truly in the grand style of Antiquity that it is impossible for any man with the least spark of knowledge of architecture, or with any love for the Art, not to feel highly gratified with this production of successful genius. (Dance's ammonite capital.) (*Plate* 15.)

To return to the works of the Ancients. Instead of columns the Greeks, and the Romans after them, sometimes substituted Statues for the support of the entablatures and roofs of their Public Buildings. This custom among the Greeks, according to Vitruvius, owed its origin to the following occasion. The people of Caria having joined the Persians against the Grecian States, and the Greeks having put an end to the struggle by a glorious victory, declared war against the Carians, and having taken and destroyed their chief city, they slew the men and led the matrons into captivity. This event suggested to the architects of that time the idea of applying statues of the Carians to support the entablatures of buildings, in order that the remembrance of their defeat might be transmitted to the latest posterity. In the Temple of Erectheus at Athens is a fine specimen of Caryatides, although the architrave and cornice over them (for the frieze is omitted) seem heavy, being nearly equal to the half of the entire height of the statues.

The Lacedemonians also, having defeated

*Note.—The late ingenious Mr. Adam exercised his talents on this subject and composed a new Order which is recent and known to all of us.

Soane, no doubt, is here referring to James and not Robert, as the former amused himself with a Britannic Order.

the Persians in the Battle of Platea, erected as a trophy of their victory a Portico decorated with groups of armour, the roof of which was supported by statues of the chief Persian captives. They in this manner terrified their enemies with the idea of their power, and at the same time inspired their citizens with a love of glory and made them more animated in the defence of their liberties.

I am fearful that the beautiful example of Grecian Art in the Temple of Erectheus has been much mutilated since the time of Athenian Stuart. One of the Caryatides is now in England, and probably the entablature has also been removed. However gratifying the sight of even parts of the ancient works may be, yet the destruction or the removal of the remains of ancient buildings must be matter of serious regret, let the motive be what it will. We may remove parts of these buildings, but the sentiment will not follow, and the judgment thus partially and incorrectly formed, from such fragments, without reference to situation, and without having the accompaniments, must be very short of the sensation we should feel on viewing the whole together.

Of the Caryatides in the Pantheon, mentioned by Pliny, there are no remains; nor is it easy to conjecture in what part of that building they were introduced. There is also a species of Caryatides in the Incantada at Salonika. This work is a very peculiar instance of statues used in architectural decorations.*

The Greeks ** were not the only people who substituted statues for columns. At Memphis the roof of the Portico of Psammeticus was supported with statues eighteen feet in height, and the Peristyle of the Mausoleum of Osymanduas was sustained by statues of sacred animals. The Egyptians also decorated many of the extensive avenues leading to their great Temples with statues of Sphinxes,* Lions, and other animals of gigantic dimensions placed in parallel lines near together and facing each other. These works could not be unknown to the Greeks, for many of their Philosophers visited Egypt. The Grecian architects also sought improvement, and pursued their studies in that country, in like manner as the Romans did afterwards in Greece, and as the artists in our days do in Italy. With these facts before us how can we reconcile the Text of Vitruvius and ascribe the invention of Persians and Caryatides to the Greeks? The Greeks doubtless felt at first sight all the force, beauty, and advantages of these dispositions, although their enlightened minds, sound judgment and correct taste would not allow them to adopt this singular style of applying statues, until they were in some degree justified in so doing by the circumstance mentioned by Vitruvius.

We have now seen how the Greeks added to their Orders of Architecture Persians and Caryatides, a practice sanctioned by Vitruvius, who tells us that many architects of his time introduced statues to support the Epistylium and Ornaments, and thereby made an excellent variety in their works, giving playfulness and richness of fancy to their

*_Note._—To what purpose the building of which this drawing shows a part was destined is not known. The Greeks, who now inhabit Salonika, say it was produced in the time of Alexander the Great, and they ascribe the work to the magic of a necromancer from Pontus, and to Aristotle, a conjurer who attended Alexander. From this account, which is given at length in the third volume of Stuart's "Athens," it should seem that the modern Greeks possess all the marvellous, and all the fire of invention so peculiar to their ancestors.

** That I may not be accused of blindly sacrificing truth to prepossession in favour of the Greeks I have given examples from the works of the Egyptians. (*Plates* 2-3.)

* This practice not coinciding with the mythology of the Greeks, although in a great degree borrowed from the religion of Egypt, we do not see any example thereof in Grecian works.

These sphinxes were of gigantic dimensions—I cannot say colossal, for I do not know of any scale in Nature to determine the point or to form a standard. They are like the Column — the term "colossal column" is an absurdity.

Piranesi has likewise caught this idea, and made the most of it in a magnificent dream.

The Egyptians likewise used, in the ornamental decorations of some of their sacred buildings, a sort of frieze enriched with the representations of Fishes and Birds, which, being either held sacred or considered as symbols of their religion, were therefore properly introduced by them in such places and for such purposes; but I believe there is only one instance in this country of large birds employed to support, although it was merely a balcony.

(*Editor's Note.*—Holland's façade to the Albany in Piccadilly, lately destroyed.)

Architecture without offending propriety. Although propriety of application might not be offended, it was inflicting a very severe punishment on posterity, subjecting them to perpetual disgrace. But, admitting the Greeks to be justified in this mode of proceeding with their vanquished enemies, how will our Architects justify a similar adoption in modern works? Upon what principle can we reconcile the introduction of male and female figures to support the Entablatures of our buildings?* or introduce them with lamps in our houses, for the lighting of rooms, although Homer himself frequently alludes to this latter use of the human figure.

If Caryatides or Persians are admitted in modern works, it must be as the late Pope has done at the entrance of the door into the Museo Pio Clementino, or as Cardinal Albani did at his Villa near Rome, where four antique male statues supported a fountain. In any other case it is merely the act of a copyist who introduces that which he has seen, not because it is characteristic, nor because it is proper, but because when considered abstractedly it, to him at least, appears beautiful.

Besides Persians and Caryatides, Pliny speaks of an Attic Order—a creature of necessity, unknown in the best compositions of the Greeks, although in Roman works it assumed great importance, being used as a finishing to many of their buildings, as may be seen in the Piazza di Nerva, likewise in most of the Triumphal Arches, as well as in many other ancient works.

Modern architects have confounded the Attic with the Orders themselves, possibly from the Text of Vitruvius, who speaks of an Attic, but is silent respecting the ordonnance thereof. All we know of the Attic is that it was a sort of short square column or pilaster with a base and capital.* The Attic and pedestal are both accessories, and never to be used but from absolute necessity.

However exceptionable the Attic may be, the plain Parapet, or Blocking Course, is still more so. This practice, however general in modern buildings, can never be admitted in any composition where an Order of Architecture is used. It alters the whole composition, it enfeebles the sensation, it destroys the proportion and character of the Order entirely, and is unwarranted by the practice of Antiquity.

I have now described the different Orders of Architecture, and also the origin and application of Persians and Caryatides, and likewise what is called the Attic Order. I have endeavoured to point out the principal varieties, general characters, and proportions of the different Orders of Architecture as practised in the works of the Ancients. These are the fertile sources of information to which we must look for correct ideas and a standard of taste; in each of them we find great beauties, and some defects. The precepts of Vitruvius touching the Orders have been also considered, as well as the works of the great Masters of the fifteenth and

*_Note._— Certainly not; not even the superior execution of the celebrated statues in the Salle des Suisses at Paris will plead an apology for so gross an offence against the decorum and propriety of our days. Let us remember the axiom that everything in Architecture is to be accounted for, and we shall avoid such errors. Indeed, this axiom should be as fully impressed on the mind of the student in Architecture, and as much revered as the nose teipsum of the Oracle of Delphos was in ancient times. Not even that gigantic and classical idea of Inigo Jones of a Persian Court in his design for a Royal Palace at Whitehall; nothing can be more noble or magnificent and at the same time more absurd. However great the idea, it cannot be tolerated, unless in those countries which have declared eternal war against each other, and this would be against every principle of the laws of nations and of civilized Society.

* Particularly in the Pantheon of Agrippa, where it has a regular base and capital and a cornice proportioned rather to the height at which it is seen from the pavement than to the Attic itself.

Note.—Compare the effect of the Porch of St. Paul's finished with a blocking course, or plain parapet, with the peristyle of the Temple at Tivoli, where, notwithstanding what Desgodetz says, there is no trace of any blocking or plain parapet over the entablature. If there had been any it would have altered the effect of the entablature materially, and the character of the Order would have been changed from beautiful lightness to disgusting heaviness.

Is this blocking course of modern invention, or is it the parapet which Moses directed the Israelites to add to their dwellings? I know not. Before our adoption of this mode of finishing the outsides of our houses a large cornice was used which at the same time that it concealed, it also contained the gutter. This species of cornice was not only useful but also produced a breadth of light and shadow and gave an appearance of grandeur and meaning to the whole front, whereas the blocking course only produces a heavy, clumsy, unmeaning effect. It is not only unsanctioned by any ancient example, but is against every principle of Grecian Architecture.

sixteenth centuries. These Orders from simple beginnings, enriched from time to time, have finally attained the utmost perfection; so that it is now dangerous to make any deviation from them without injuring them, and without doing too much or too little. Indeed, all the attempts to produce an entire new Order have only disgraced the puny minds of those who flattered themselves with achieving such an object and have established the truth of what I have advanced.

The application of Columns and Entablatures is now to be considered. These noble parts of architectural decoration, when well proportioned as to strength and delicacy and properly arranged, can assume any character, and make the most powerful impression on the mind.

The Column, one of the great features of every Order, owes its origin to necessity, and its importance to utility and beauty. Whether it is considered for use or beauty, the truncated cone presents itself as the best fitted for those purposes, and the laws of nature, gravitation, and solidity direct it to be placed perpendicularly, yet Vitruvius says the columns of circular peristyles should be placed with an inclination towards the walls of the cella of Temples, and in some ancient works they are so placed.

The magnitude and destination of the buildings must determine the Order to be used, as well as the thickness and height of the columns. Situation, whether external or internal, must be attended to. If the column is too large, as at the Portico of (blank), or too small, as in alcoves in bedrooms, then notwithstanding its tapering figure—with its easy and gradual transition from light to shade, and flowing outline of its swelled shaft, we shall be in all cases disappointed with the effect produced.

The dimensions or magnitude of the column is of primary importance. A column should never be really small, as in chimney-pieces, door dressings and such like. It must always be a principal actor in the drama, or it will become puerile and trifling.

The shaft of the column is frequently left plain, oftentimes fluted and cabled and otherwise enriched. In some examples it is rusticated, in others decorated with the prows of ships and similar devices fancifully imagined. The Egyptians, instead of flutes, used hieroglyphics to decorate the shafts of their columns. On these different modes of treating the shaft it may be observed that the column is *grand* in its simple state, *elegant* when fluted, and *degraded* when rusticated, or when its plan deviates from a circle, as in some modern works; but the quintessence of absurdity in form is complete when we use a twisted shaft.

To what strange caprice is the origin of twisted columns to be ascribed? It has been supposed that the twisted flutes in the shafts of some antique columns suggested this idea. Others have imputed the origin to the ivy and other shrubs twining round the majestic oak. Be it so; but will this, to sound taste, justify the introduction of such difficult and expensive deformity? The adoption of such forms would be as fatal in their effects and as repulsive to taste as the ivy is to the growth and health of the tree. The twisted column, says its admirers, has variety; so have the distortions in the works of Borromini; but it is a species of variety that gives pain, not pleasure.

Columns with twisted shafts are in Architecture what deformed Nature would be in Painting and Sculpture.

Bernini thought differently, and introduced these deformities in the Baldaquin of St. Peter's, and from the love of novelty all the world for a time followed the example.*

Is it not astonishing that with so many beautiful examples of shafts of columns formed by truncated cones, gradually diminishing from bottom to top, and occasionally still more gracefully lessened by the entasis or swelling (described by Vitruvius), that such a form, so well fitted for beauty and for use, will not satisfy us? Man seems to delight in distorting all the works of

**Note.*—Our disgust and mortification are increased at the sight of these columns because we cannot refrain from associating with them another idea—namely, that the Pantheon was shamefully robbed of many of its most beautiful antique metal ornaments, thus strangely metamorphosed.

Nature: his horse, his dog, everything (according to his own language) must be improved.

Too much attention cannot be paid to Columns. According to Vitruvius they should be proportioned to the character they are to represent. Those for places of worship should give an appearance of solemnity, but those used for theatres, and such works, should be of a lighter proportion and different character. Symmetry and proportion should likewise be regulated by the intercolumniation. In proportion as the distance between the columns is enlarged, so the thickness of their shafts should also be increased; for, according to the width of the intercolumniation, the air, in appearance, lessens, and diminishes the thickness of the shafts. The columns at the angles of buildings are therefore made one-fiftieth part of the diameter thicker than the others; and for the same reason the second row of columns in porticoes should be smaller than those in the front row, because they are surrounded with a less quantity of air. In these cases judgment must correct the deficiency of sight.

In proof of this doctrine we may observe that small masses, viewed at a distance, diminish in a greater proportion than large masses, this optical effect, so well understood by the Ancients, is of the greatest use to the architect, and the fact will perhaps be more strongly impressed on his mind if his attention is directed to the effect of a single column placed on an elevated situation. He will find that it appears more slender, in proportion to the distance and medium at and through which it is viewed—*i.e.,* if a column placed near the spectator appears to be seven diameters in height, the same will seem of eight, nine, or more diameters in proportion to its local distance and the atmosphere in which it is viewed. Hence we see why objects of the same quantity and form, if used in different situations, produce different effects on the mind, and why many things which we view with such exquisite delight in the works of the Ancients, produce a contrary effect when improperly applied by the unskilful; nor will the same objects succeed equally well in different scales: certain figures and forms require certain dimensions.

Let us now consider the application of the great treasures of our Art according to the practice of the Ancients in their Temples and other works.

Vitruvius describes five species of Temples, viz.:—

The Pycnostyle, in which the columns are placed $1\frac{1}{2}$ diameters from each other, chiefly used with columns of the Corinthian Order.

The Sistyle, of two diameters.

The Eustyle, of two and a quarter diameters.

The Diastyle, of three diameters.

The Areostyle, of four diameters.

From a view of these different species of Temples it will appear that the Pycnostyle and Sistyle are too close and the Areostyle too wide, and consequently deficient in strength. There remains only the Diastyle, the latter of which on most occasions has been preferred. These intercolumniations do not apply exactly to the Doric Order; in that Order the intercolumniations are regulated by the Triglyphs.

These intercolumniations have a reference to insulated Columns in Peristyles, Porticoes, and such like edifices, where they are necessarily placed near each other both on account of real and apparent solidity as well as beauty. When columns are partly engaged in walls their intercolumniations are not so limited; they may be enlarged as in the theatres, amphitheatres, and other buildings of the Ancients. The centre intercolumniations of Porticoes and Peristyles are for convenience, also occasionally made wider than the others, particularly in Temples of the Pycnostyle species, where the closeness of the columns was found inconvenient. If, however, some of the intercolumniations in the same building are made considerably wider than the others the uniformity of the composition is interrupted and the effect of the whole is destroyed.

Besides the different intercolumniations spoken of, Columns in some ancient edifices are placed at the angles of Porticoes and

Peristyles, grouped or coupled together,* and they are sometimes arranged with pilasters. (*Plate* 16.) There is likewise another disposition of Columns where the spaces are alternately equal. Some of the Temples of Palmyra (*Plate* 1) and Baalbec are composed in this manner, yet, notwithstanding these examples of remote Antiquity, the French arrogate to themselves the invention. The Ancients were doubtless well acquainted with the advantages, beauties, and defects of this arrangement, as well as with the superior effect of columns placed at equal distances. They likewise felt how much wide and unequal spaces weakened the sensation, and therefore rejected them.

The different aspects and figures of Temples, as practised by the Ancients, are thus described by Vitruvius, viz.: In Antis, Prostyle, Amphi-prostyle, Peripteral, and Dipteral.

Temples in Antis are those which have two or more columns in front and an Anta at each of the angles of the wall of the Cella, with the entire Entablature continued the whole extent of the walls of the Temple. In a recent publication of Grecian Antiquities, the Temple of Diana, the one mentioned in the "Iphigenia" of Euripides, is described as being of this species. For which conclusion the reason given is that Pylades proposes to Orestes that they should enter the Temple through the spaces between the Triglyphs, which, as has been before observed, in the most ancient Temples (according to Vitruvius) remained open. This circumstance is, however, no proof of what is advanced, for in the Temple of Concord at Agrigentum (which is peripteral) the entablature, with its metopes and triglyphs, being continued all round the walls of the cella, would thereby offer the same facility in entering through the open spaces between the triglyphs, as would be the case with a Temple in Antis.

The Prostyle Temple differs from the Temple in Antis by having columns opposite the antae at the angles.

The Amphiprostyle Temple has the same parts as the Prostyle, with the addition of columns in the Portico.

The Peripteral Temple is surrounded with Columns, leaving a walk all round between the Columns and the Cella, equal in width to one of the Intercolumniations.

There are also pseudo-Peripteral Temples, that is, where the walks between the Columns on the flanks and the Cella are omitted, as at Fortuna Virilis in Rome and La Maison Carrée at Nismes.

The Dipteral Temple is surrounded with two rows of Columns, forming double spaces, or walks, between the external columns and the walls of the Cella. These spaces, or walks, are of the same width as the intercolumniation. This species of Temple has generally eight columns in front, and fifteen on each flank, reckoning those at the angles.

Pseudo-Dipteral Temples also occur in Antiquity. They are similar to the Dipteral, except in the omission of the inner row of columns, whereby more room is left for the sacrifices and ceremonies. This was an invention of Hermogenes, the architect of the Temple of Bacchus at Teos, of whom Vitruvius speaks most highly. Vitruvius tells us that in this disposition of columns there are to be eight columns in each front.

The Ancients were particularly attached to circular Peripteral Temples, of which there is a beautiful example at Tivoli, and another dedicated to Vesta at Rome. (*Plate* 25.) No composition can be more attractive and pleasing than the circular Peripteral Temple. The variety and smooth graduation in the perspective, the different quantity of air which surrounds each column, the change produced by the fore-shortening of the capitals and the ornaments of the frieze, together with the accidental play of light and shadow, make the effect of the whole composition irresistible.

Vitruvius speaks of other Temples, whose plans form a perfect circle, denominated Monopteral, that is, with columns but without walls, of which I do not know of any ancient example now in existence.

There is also another species of Temple

*In the Temple of the Clitumnus we find pilasters at the external angles grouped with columns. This may give an appearance of strength, but at the same time the pilaster viewed on the angle assumes a different proportion from the front view and offends the eye by its heaviness. (*Plate* 16.)

called Hypaethral, sacred to Jupiter, to the Sun, and to the Moon. These Temples have Peristyles externally and internally. The space between the internal peristyles were left open at the top, because the Ancients judged it highly improper to confine those divinities within walls. This reason is much more satisfactory than the motive assigned for this mode of construction by a late English writer in Architecture who ascribes it to their ignorance of construction.

Of Hypaethral Temples, the great Temple at Paestum is a fine example. (*Plate* 4.) We have also another in the Temple of Jupiter Olympius at Athens—this last was not that Temple in which was placed the celebrated Statue of Phidias, made of gold and ivory, sixty feet in height. The god being represented in a sitting attitude, it was observed that if he chose to alter his situation he must infallibly strike his head against the ceiling. If the sculptor had not invaded the architect's province, this absurdity would not have happened. This is one of the proofs of the truth of the Poet's observation.

"One Science only, will one genius fit.
So vast is Art, so narrow human wit."

Of Hypaethral Temples there was one in the Island of Aegina also a Temple to Jupiter, and another to the same divinity at Selinunte in Sicily, both of these were of the Doric Order.

The Pantheon in Rome is another example of the Hypaethral Temple. This stupendous structure, though stripped of its precious ornaments, and despite all the alterations it has undergone, is yet the most perfect and magnificent Temple now to be seen.* (*Plates* 87-88.)

The Portico ** produces a depth and breadth of light and shade which astonishes the beholder, and prepares him for the sublime effect which the interior of this superb edifice presents. The paving of the Portico and of the Temple itself are now on the same level; formerly there was a descent of several steps which materially increased the solemn effect of this prodigious edifice.*

Besides the instances of the Temples already mentioned, there were many others of singular beauty and happy invention, some of which were of amazing extent—such as the Temple of Diana at Ephesus, of which there are no remains, although its extent and richness were such as to occupy two hundred and seventy-five years in building, and to exhaust all the resources of Asia in its construction. Vitruvius has recorded the name of the architect, and many of the great writers of antiquity have been warm in their praises of this extensive structure, one of the wonders of the world. The Temple of Fortune at Praeneste ** was also distinguished for its beauty, richness and magnitude. This building, which resembled a City rather than a Temple, was considered by the Ancients of the first importance. Built on the side of a mountain it formed several distinct stages, rising theatrically above each other, the whole terminated in a semi-circular form, decorated with columns whose capitals were different from those of the Greek Orders. The remains of this proud fane are yet very considerable, and many have thereby been induced to attempt to trace its original plan, and to give an idea of the whole assemblage when in its perfect state. (*Plate* 17.)

**Note.*— The roof of the Temple was formerly covered with plates of brass gilt, and the enrichments of the interior were of silver and of other rich material, most of which were taken away by Constans the Second about the year 655. The ornaments of the Portico were chiefly of brass: these Pope Barberini (Urban VIII) removed and used in forming the Baldaquin in St. Peter's and some of the cannon at the Castle of St. Angelo.

"Quod non fecerunt Barbari, Romae, fecit Barbarini."

***Note.*—How strange it is that this noble Portico has never been imitated. The French stumbled on it in the front of St. Geneviève, but love of novelty prevented Soufflot from fully availing himself of the opportunity. How flimsy do all the Porticoes of modern times with a single row of pillars, however large, appear when compared with the Portico of the Pantheon.

**Note.*—This practice of a sunk floor often occurs in ancient buildings and it has been successfully followed in the Church of the Invalides.

***Note.*—Praeneste, or Palestrina is about 22 miles south-east of Rome.

Carniades, the Athenian Philosopher, after visiting this extensive and magnificent assemblage of buildings observed: "Nunquam se fortunatiorem quam Praeneste vidisse Fortunam."

Pliny speaks of the Mosaic pavement of the Cella as being about 18 by 14 feet. This fragment was discovered in the time of Cardinal Barberini and removed by him into his Palace built on a part of the site of the ancient Temple, where it is carefully preserved. The Etruscans are said by some to be the inventors of this laborious Art. Others ascribe it to the Persians, and in the Book of Esther, Chap. I, verse 6, we read that in the time of Ahasuerus, or Artaxerxes, Mosaic pavements were in use.

The Temple of the Sun, in the City of Palmyra,* like the Temple of Diana in Bubastis, is placed towards the middle of an immense quadrangle surrounded with magnificent rooms and lofty peristyles of Corinthian Architecture. (*Plate* 1.) The grandeur of these buildings contrasted with the miserable hovels raised by the Arabs in the great area of the Temple, shows at once the vanity of all sublunary things, and mocks, as in derision, the ancient splendour of this mighty edifice.

> "There in the ruins heedless of the dead,
> The shelter-seeking Peasant builds his shed,
> And, wondering man could want the larger pile,
> Exults, and owns his cottage with a smile."

The great Temple in Baalbec,** with its porticoes and courts, occupies several acres and offers another example of the honour paid by the Ancients to their Divinities, and to the priests who performed their sacred functions. The remains of this building are very considerable and claim our highest admiration. There is an extended line of front, through whose centre you enter a large hexagonal court, leading into another of a quadrangular form. Both of these Courts are surrounded with noble colonnades and sumptuous apartments for the priests and sacred ceremonies. At the further end of the great court is a Temple worthy of pagan worship. Such an assemblage of grand and imposing forms cannot fail of creating sensations in the mind, easier felt than described.

There are two other Temples in this celebrated city which merit attention. The first is Octastyle Peripteral: it is two hundred feet in length, with fifty-six columns, each forty-five feet in height. The other Temple, formed by a portion of a circle, is a great curiosity. It attracts notice from the singularity of its plan, and from the peculiarity in the arrangement of the entablature. Much cannot be said for the correctness of this composition, but the variety and playfulness, due to the effect of light and shadow produced by the plan and elevation, is deserving of attention and praise. There is another singularity in the interior of this Temple, which is decorated with the Corinthian and Ionic Orders, it being, I believe, the only instance of the Ionic Order to be found at Baalbec.*

The aspect of the Temple of Jupiter Serapis at Pozzuolo is, in many respects, like one of those in Baalbec, although on a smaller scale. The remains of this building are sufficient to impress us with an idea of its former grandeur.

The Temple of Isis in Pompeii ** is an interesting structure. The drawings here exhibited were made from sketches made by stealth by moonlight, and are, I believe, accurate. The Temple itself is placed in the middle of an elegant court. The apartments for the Priests, the purification altars, and other appendages of heathen worship, are worthy of the best attention of the architect and the antiquary. (*Plates* 18-19.)

The Temple of Peace in Rome, by some supposed to have been a part of the Imperial Palace, was built by Vespasian, and is one of the largest Temples in that great city. Its figure is quadrangular, with three niches or tribunes on each side, and another opposite the entrance. Of this magnificent pile enough remains to enable us to ascertain its plan and style of decoration, the latter, in point of execution, by no means keeps pace with the grandeur of the composition.

Other examples of ancient Temples might be exhibited; I shall, however, only produce one more—the Temple of Minerva Medica in Rome. (*Plate* 20.) The Plan of

* Palmyra once boasted of a Zenobia, and many of the great works of this famed City, of which a general view was given in the first Lecture, claim the attention of the architect, more from variety of form, picturesque effect, elegance of decoration, and richness of materials, than from the purity of the Architecture, which is almost entirely Corinthian. Palmyra seems to have been raised for superior beings; there is no space left for inferior dwellings, the whole site is filled with Temples and Palaces of such magnitude and splendour as induce the Arabs to ascribe the origin of those mighty works to the power of magic.

** The buildings now remaining in Baalbec partake of the same character and extent, the same grandeur and solidity of execution, as those at Palmyra.

*This Temple has been copied in Kew Gardens. (*Plate* 84.)

** This Temple is of the Corinthian Order, and it is worthy of observation that the capitals resemble those of the Temple at Tivoli. (*Plates* 11-25 *and* 101.)

this edifice is uncommonly beautiful, and there is a peculiar lightness and skill in the construction of the Dome that demands the consideration and serious attention of the young architect who is desirous of distinguishing himself in constructive knowledge, that very essential and necessary part of his professional pursuits. Many of the Temples spoken of in these Lectures were of such prodigious dimensions and embellished with such an immense number of columns, statues, basso-relievos, pictures, and every other decoration suitable to the genius and character of each building that, without those stupendous ruins of them now remaining, we should be justified in doubting their having ever existed. We must not imagine, however, that all the ancient Temples were equally magnificent and extensive. We must distinguish the body of the building from that which was only an accessory, and we shall then see that the Temple itself made but a very small part of the entire assemblage. (*Plates* 1-21.) Moreover, few of the ancient Temples were really of such extravagant dimensions as even the works of later times. If, in speaking of the extent of the Church of St. Peter at Rome we take into the description the Area before it, the Colonnades leading thereto, the Vatican Palace, the Sacristia and other buildings connected therewith; or if in describing a Gothic Cathedral we include the immense cloisters and the religious edifices attached to them, such descriptions might in after ages, when the ruins of those buildings only existed, be equally a subject of surprise and doubt.

Although the Temples of Antiquity seem to have been without number,* it has been said that there was but little variety in their Plans; but if Soria, who lived in the sixteenth century, and professed to have measured and delineated many of them from ancient ruins, of which no remains are now to be seen, can be depended on for correctness, the Plans of many of them were full of rich fancy and elegant contrast.

It is of great importance to the young artist to be well informed of the practice of the Ancients in all cases, and although Temples are now only required, and that but occasionally, in pleasure grounds, yet such principles of beauty, proportion, and harmony will be acquired from the study of them as will apply generally. The student, therefore, should be fully acquainted with the different forms and constructions of ancient Temples. In them he will discover many of the great principles of his Art; in them he will learn many of the laws of composition. He will observe the beauty of form, and the correct application of the sublime to Architecture, the effect of the whole being so well understood in those great works. These principles must be so far applicable in every species of building, whether public or private, whether great or small, as to amply reward him for his labours. Be assured, my young friends, that the hand of the artist and the mind of genius are as correctly traced in the humble dwellings of individuals as in the magnificent palaces of the great—nay, to give an interest to small edifices of moderate expense requires more than common knowledge, judgment, and taste. In the Temples of the Ancients we saw the different manners in which they introduced entire columns in the external decorations of those structures. Although entire insulated columns are always to be preferred, yet from motives of economy and other causes, they cannot always be admitted in modern works Even the Ancients sometimes deviated from the use of the entire or insulated column.* In various celebrated

*Note.—This cannot be matter of surprise: the ancient conquerors were ambitious to transmit their achievements to posterity by erecting public porticoes, or Temples to the Gods. Pompey, after the eighty years wars, built out of its spoils a Temple to Minerva. Pliny (Nat. Hist., L.7. c.26) has handed down to us an inscription it contained giving a summary of his victories.

*Note.—Examples of portions (or engaged) columns occur in the Temple of Erectheus at Athens, in the Temple of Æsculapius at Agrigentum, in the flanks of the Temple of Fortuna Virilis at Rome, and in La Maison Carree at Nismes, built in the time of Antoninus. This building is considered, by some, as of the most perfect kind; it certainly is entitled to great praise, and although in this particular it is deficient, it is much less so than in many others, inasmuch as there are no imposts or fascias to destroy the swelling outline of the column. The whole space between the base and capital is in the true style of antiquity, without fascia, impost, or any other interruption, for when an impost occurs, and the column projects from the wall only half its diameter, its simplicity and grandeur are

works of antiquity we find portions of columns used in situations where only one Order occurs, as well as in others where several Orders are placed over each other, as in the Theatre of Marcellus and in the Colosseum of Vespasian. At the same time it must be allowed that mutilations of every kind are defects in Art, which on all occasions are to be avoided.

The Ancients sometimes placed insulated columns on Pedestals. The buildings at Palmyra and Baalbec, the Stoa or Portico at Athens, and the Triumphal Arches of Italy and Greece furnish examples. Palladio also gives an instance of this mode at Scisi, a city of Umbria. All these examples, however, will not justify the practice, which is contrary to first principles and must be condemned by Reason. However improper it may be to place detached columns on pedestals, detached columns or corbels (as in Diocletian's Palace at Spalatro and in the Baths at Rome) are still more licentious, and more painful to the sight. In spite of all precedents, whether ancient or modern, this practice cannot be justified. (*Plate* 30.)

In the first Lecture I endeavoured to show the probable causes which first led to the introduction of that noble and most useful part of architectural decoration, the Column, into the interior of ancient edifices. We have a very singular example of this practice in one of the Temples at Paestum, where the entire building is divided into two equal parts by a line of columns placed longitudinally. Some have supposed that columns were thus used in Temples where two Divinities were worshipped under the same roof, as in the Temple of Erectheus. Admitting even this conjecture to be right, it will not account for the placing of a column in the centre of the front of a building, as in the front of the Temple of Victory, or for the same singularity in the Monument of Thrasyllus. The practice, however sanctioned by antiquity, whether occasioned by any religious motive, by necessity, or by whatever other cause the ancients were actuated, is contrary to the general laws of Nature. It is fatal to our ideas of convenience, which invariably directs the entrance to be in the centre of the building; yet, strange to say, this example of remote antiquity has been copied in some late works without any apparent motive than the love of what is uncommon. This circumstance is another proof of the necessity of our recurring to first principles.

In the Egyptian Temple of Canopus or Knuphis there is a column in the centre of the front, and it is worthy of remark that even this circumstance has been brought in proof of the Greeks having taken many of their ideas from the Egyptians. (When once we have adopted an hypothesis, what lengths we go to support it). Surely if we recur to the primitive model of the Greeks we shall see that this practice, with them, at first the offspring of necessity, and afterwards continued by a religious adherence to first principles, and to their imitative system.*

When either of the Orders of Architecture are used in the interior of buildings, such parts of the entablature as apply exclusively to external decoration should be suppressed. Thus the Ancients preserved the characteristic beauty of the column, and at the same time pleased the eye, and satisfied the most correct judgment. The text of Vitruvius and the primitive model agree with this doctrine.

In the best works of the Greeks, where entire columns, or parts of columns, are used internally, the frieze and cornice are omitted. Indeed, the Greeks were so mindful of the origin of the Entablature that they rejected the frieze and cornice, not only in their internal decorations, but also in the interior of their peristyles, as in the Temples of Minerva at Athens, and at Syracuse, in the Temple of

materially injured, as may be seen in the Theatre of Marcellus and in the Coliseum. In a work of high antiquity, the Sepulchre at Albano, and a Mausoleum in France, the mouldings are returned to preserve the outline of the columns. Semi-columns are also used in the Arch of Titus in Rome and in the Arch of Trajan at Beneventum, which latter is in many parts an exact copy of the Arch of Titus.

In the Arch of Ancona, erected to Trajan, semi-columns are also used.

* See Lecture IX, page 141.

Concord at Agrigentum, in the great Temples at Paestum (*Plate* 4), and in the Propylaea.*

The suppression of those parts of the entablature which can only apply to external decoration is also attended to in many of the Roman buildings. In the interior of the Portico of Octavia there is an architrave only above the column.

Within the Portico of the Pantheon, the finishing over the columns is little more than an architrave and a small cornice.

At Tivoli, under the ceiling of the inside of the peristyle, there is a small cornice only, ranging with the external cornice, as directed by Vitruvius.

In the Temple of Mars the Avenger, the finishing to the inside of the Portico, above the Columns, is not contrary to first principles.

In the Basilica of Antoninus there is only an architrave above the column, but in the Temple of Concord at Rome there is an architrave, and an enriched frieze.

It gives me great pleasure to produce an example in a modern work wherein this propriety of application has not been overlooked. The student will also perceive other circumstances in the work now exhibited deserving his most serious consideration.** (Dance's Church.) (*Plate* 22.)

But even the Ancients were not always mindful of first principles. Every ancient artist was not able to bend the bow of Ulysses to wield the club of Hercules, or to contend for the armour of Achilles. If we examine further into the remains of Antiquity we shall find examples wherein the regular entablature, originally used for external decoration only, is placed over columns in the interior, not only in the buildings at Palmyra and Baalbec, but also in others erected in better times.

In the Temple of Peace, the entire entablature (with the omission of the corona) is placed over insulated columns, from whence the stupendous vaulted ceiling springs; and the vaulted ceiling of the great Hall in the Baths of Diocletian was likewise supported by insulated columns, with entablatures breaking over them. (*Plate* 54.)

Although in these examples we find both modillions and dentils, yet as those parts owe their origin to the roofs of buildings they can never be used with propriety in the interior; and although custom may familiarize us to such absurdities nothing can justify them. Unfortunately we are prone to take the bad, and hence we see not only modillions and dentils in the interior decoration of many modern works, but also the heads of Lions,* which latter (according to Vitruvius) were never used by the Ancients except to carry off the water from the roofs of buildings, as may be seen in the Tower of the Winds at Athens and in the Temple of Minerva in the Acropolis.

In the Pantheon also, as well as in the last examples, the regular entablature with modillions in the cornice, is placed over columns, but I think under such circumstances as will justify the application. I shall give my reasons for this opinion when speaking of the Altars in that celebrated work.**

It has been already shown that the Ancients sometimes used portions of columns in external decoration. I shall now give examples. The Ancients did not always use entire columns internally any more than externally. Engaged columns also occur in some of their best works.

In the Temple of Erectheus there is an example of this kind, and I think the Choragic Monument of Lysicrates may be quoted as another, and in the magnificent remains of Palmyra and Baalbec frequent

**Note.*—The regular entablature cannot be retained in internal decoration without sacrificing all pretentions to propriety of application. That which has not propriety and truth for its basis, though it may please the unskilled, yet it cannot fail of disgusting the judicious. If we follow the best examples of antiquity we shall please the eye, and satisfy the most correct judgment, without destroying any of the characteristic beauties of the Orders.

***Note.*—I am the more anxious to fix the attention of the student on the interior of this particular building because in the early part of my studies, being accustomed to see in books of Architecture, the same entablatures in the interior as in the exterior, the deviation shown in this drawing I could not account for; and therefore, like a young man, supposed it defective: but as soon as I was led to consider the principles of Grecian Architecture, not only the eye was pleased, but the judgment was satisfied with this example of refined taste.

* Among the Egyptians the Lion was a type of an inundation—Herodotus.

** Lecture IV, page 66.

instances of semi-columns occur in the interior of those stupendous works.

Whether columns in the interior are for ornament or use, the regular entablature cannot be applied, for many of its parts can have no analogy with the interior, but refer to external decoration only. For instance, the modillions and mutules which represent the principal rafters; the dentils which represent the common rafters, and also the upper parts of the cornice intended to carry off the rain-water, etc., these parts refer only to the exterior of buildings. In this opinion also we are strengthened by the Text of Vitruvius, who expressly says that in the interior of Peristyles the regular entablature is not to be used, and of course this precept will apply in a still greater degree to the interior of rooms.

Columns, both in external or internal decoration, make as it were the scale for all the rest of the building. Their relative magnitude therefore is of the greatest importance, for if they are introduced either externally or internally for the decorations of dwelling houses or other buildings of moderate extent, unless particular attention is given to determine their relative magnitude, the work will not only appear less than it really is, but convenience also will be frequently sacrificed. This will in a great measure justify the observation of some fashionable builders of the present day who speak of columns as things now out of fashion.

Private houses are in general not sufficiently large for the admission of columns. If of small dimensions, as in the alcoves of bedrooms, all the parts being brought near the eye, the whole appears heavy and misplaced, although with the same proportions on a larger scale, they would appear light and pleasing. Whoever compares the external effect of St. Paul's Church, Covent Garden, (*Plates* 13-14), with the same design on a smaller scale at Claremont, will be convinced of this very important truth. We may further observe that however suitable and well calculated the Doric Order may be for the external decoration of large buildings of a particular character, yet from the small number of parts of which it is composed, together with the great projection of the cornice and the massiveness of the columns, it becomes totally improper for the internal decoration of houses, except in large halls and in subterranean places. Although the Greek Doric column, with its massive entablature, as used in the early Temples of the Greeks, is occasionally seen in the dwelling rooms and galleries in the houses of men, in many respects distinguished for classical knowledge and correctness of taste, yet such practice is contrary to every rational principle of internal decoration, and also to the Text of Vitruvius, who expressly directs the proportions and symmetry of columns in such situations to be of a light gay character, and not solemn and heavy like those used in Temples. By these errors we misplace the noble ideas of the Ancients, and make (by improper application) things in themselves noble, grand, and impressive merely mean, paltry, and disgusting, and sometimes even ridiculous.

It is doubtful whether the Greeks and Romans used columns in the interior of their houses. There is no such example to be found at Pompeii, nor in the remains of the Villa of Adrian, nor does Pliny speak of them when describing his Villa. The reason seems obvious. The column presents, as it were, a scale, and ought always to convey an idea of magnitude, of superiority, and of marked distinction, calculated to command attention, consideration, and respect.

Columns upon columns frequently occur in the remains of Roman grandeur. In the Theatre of Marcellus we have two Orders one above the other; in the Coliseum four Orders, surmounted with a Pilastrade. These are only portions of columns attached to the walls, of which many other examples may be quoted, but I do not know of any example in Antiquity of insulated columns placed upon columns in peristyles and colonnades, not even in Palmyra, Baalbec, or Spalatro. Indeed, there is so much difficulty in introducing two Orders of insulated columns, without committing such dreadful outrages on propriety, that two Orders on all possible occasions are to be avoided.

It is true insulated columns above columns are to be seen at Athens, particularly in the

Arch of Theseus, or Adrian, for it is known by both names, but this building is of the worst time of Architecture. I know not the age of this work, but it is full of absurdities. It is my duty however to point out those examples which the student is to shun as well as those on which he must establish his ideas of true taste.

Vitruvius tells us that the Greeks placed insulated columns above columns in their Forums and Basilicas, and he directs the upper columns to be made one-fourth part less in height than the Order over which they are placed. The intention of Vitruvius seems to be to make the upper columns a continuation of the lower. This is consistent with his ideas of the origin of columns, which he supposes to have been from trees. The great disproportion between the two Orders of Columns in the great Temple at Paestum, is sufficiently accounted for by a recurrence to the imitative system of the Greeks, and from which they never departed, wherein we see the flatness of the roof produced the shortness of the columns and it is worthy of observation that wheresoever insulated columns above columns were used in ancient buildings, whether in external or internal decoration, there is always a very great disparity between the two. (*Plate* 4.)

From the difference in the Climates of Italy and Greece, the Romans made their pediments higher than those in Grecian works; from hence it follows that in Roman buildings, where insulated columns were placed above insulated columns, the upper Order would be higher in proportion to the Order on which it was placed, but that this was not the case may be seen in the Temple of Jupiter at Spalatro. This is only another proof of the blind manner in which the Romans followed the Greeks.

Columns placed upon columns, whether insulated or attached to walls, produce some serious difficulties, glaring absurdities, and striking contradictions. The cornice belongs exclusively to the roof of a building; it must therefore be entirely suppressed between the two Orders, and if this be done, although propriety is in some degree preserved, an essential beauty is destroyed; yet if the building shows more than one storey in height, this is better than having two or more storeys included in the height of one column, as frequently occurs in modern works. If, however, two or more Orders of columns are to be used, they must be of large diameters, as at the Theatre of Marcellus, the Coliseum, and many other ancient buildings. The two Orders of Columns in the front of the Banquetting House, Whitehall, are sufficiently large as to the relative proportions of the whole front; but those at Castle Ashby are so small as to make the warmest admirer of columns regret to find them there.* (*Plate* 62.)

In this latter example we have many of the striking defects of placing columns above columns without suppressing all the cornices except the last. Here we see the cornice to the upper Order, which is the farthest from the eye, being proportioned in a great degree to the height of the column, does not project sufficiently to throw off the water from the roof to a sufficient distance from the foundation of the walls so as to secure them from damp, but on the contrary it falls on the cornice of the Order beneath it. To avoid this evil, and also in some measure preserve propriety, the cornice of the upper Order at the Theatre of Marcellus is much heavier than the cornice beneath it. If, however, columns must be placed upon columns, we cannot do better than to follow the ancient practice in the Hypaethral Temples, and also in the Text of Vitruvius—that is, to suppress the cornice of the first Order altogether.

I have endeavoured to show the principal examples of the manner in which the Greeks and Romans used the Orders at different periods for external as well as for internal decoration, and we may observe that in the works of the Greeks (until their subjugation by the Romans) mutilated forms seldom occurred. The Romans were not so nice, and we see how little attention they paid, even in many of their great works, to the examples of Greece, executed on the principles of their

**Note.*—Michele Sanmicheli in the Grimani Palace at Venice has felt this impropriety—so likewise in the Cornice over the Attic Pilasters in the Pantheon.

primitive model. Hence architecture degenerated most rapidly as will be shown in the next Lecture.

Many persons have considered the Orders of Architecture as unalterably fixed by the Ancients,* and therefore on every occasion most religiously to be adhered to, in all their proportions, forms, and ornaments, whether they were used in town or country, whether public or private works, whether in great or small buildings, let the situation, destination and character of the structure be what it will, let the materials be of quality soever, still the Orders were to be the same. This is directly contrary to the doctrine of Vitruvius, who expressly says that the proportions of columns in theatres and private buildings are to differ in their proportions, forms, and ornaments from those used in sacred Temples. Had not this variety been necessary, Architecture would have been mere matter of routine. The most ignorant mechanic and the first genius might have exercised the profession with equal success. Others have held opinions directly opposed to those just mentioned, and having observed in many ancient buildings prodigious differences, even in the essential parts of all the Orders, they therefore concluded that everything in Architecture was only matter of whim, caprice, and fancy unrestrained by rules and unregulated by any fixed principles. Nothing, however, can be less founded than this doctrine, nor more fatal to Art. I shall conclude this discourse with a few general observations.

The Ancients have not in any two edifices used the same Orders with the same proportions, forms, and ornaments, nor without great variations and marked modifications. Indeed had not this been the case, few if any of their works would have had any pretensions to character, nor would have gained the admiration and approbation of mainkind as they have done in all succeeding ages. The fact is that of the ancient buildings now remaining, the Arch of Titus at Rome and the Arch of Trajan at Beneventum excepted, there are no two of them with the same Order without the most striking differences.

Architecture, whose importance and honour my situation in this Institution requires me to defend, has not since the time of Lord Burlington kept pace with Painting and Sculpture. These Arts have a Buckingham, a Hardwick, a Beaumont, and a Damer, who not only encourage but really exercise them with a distinguished success. There is likewise a British Institution for the express advantage of Painting and Sculpture. Until Architecture has a Burlington, a Pembroke or a Camelford to direct the public taste, we can have but little hope. Indeed, until those who build are competent to judge of Art, however we may lament the circumstances we must not be surprised at seeing so many works of high importance and of great expense entrusted to Bricklayers and Carpenters —even buildings wherein the national taste is implicated. In my last Lecture I recommended to the Students the serious perusal of the Works of Vitruvius and those of the great Italian Architects as well as the French and English writers. Piranesi alone will afford a mine of information to the studious inquirer, and from his overflowing much may be gleaned; and although L. B. Alberti failed in his attempt to rival Vitruvius, his work is too full of erudition and deep inquiry not to be read without great advantage. By the attentive reading of these works, by measuring and drawing the remains of Antiquity, and by serious reflecting on the principles on which those edifices have been produced, the taste of the Student will be formed, but unless practice is added to his Theory he will be little more than a fine draughtsman. Drawing, although a desirable and most necessary qualification, makes a very small part of the requirements requisite to form an architect.

The Students in Painting and Sculpture have many facilities afforded them which those in Architecture are deprived of. Plaster casts from many of the finest statues and basso-relievos of antiquity are constantly before them, and many of the most scientific

*Note.—No two examples of the same Order in Antiquity were alike unless all the circumstances were alike also. This fact is well worthy of the most serious attention of the architect. It may be considered as an axiom inattention to which, has produced prodigious mischief in Architecture, and occasioned the introduction of as much bad taste as almost any circumstance whatever.

pictures of the great Masters are likewise in this country, whereas the Architect has no models of ancient buildings to consult, nor plaster casts of their ornaments and component parts to refer to. His only acquaintance with the remains of the structures of the Ancients must be obtained by a great sacrifice of time and expense, often beyond the ability of many of the students; and when this is not the case the student can only contemplate the Works of Antiquity through the medium of Prints and Drawings, of which, it must be admitted, we have abundance, but frequently differing so much from each other that it is impossible for the artist to know on which he is to rely for fidelity of representation.

Will the most accurate and perfect drawings of the celebrated statues and basso-relievos of antiquity give adequate ideas of them to the painter or sculptor? No, and it is the same with the Architect, Drawings and Prints, however correct they may be, can give but very imperfect ideas of real and relative quantity; nor will they show the great varieties in the effects produced by the same objects when seen with different lights and shadows upon them, and even if correct representations were sufficient for every useful purpose of study where are they to be found—how are they to be obtained? Will the Works of Antiquity as shown by Palladio, Scamozzi, and Vignola give artists correct ideas of the original building? Can he depend on the delineations of Desgodetz?

Towards the end of the seventeenth century a more correct knowledge of the ancient buildings than the works then published afforded being found necessary, the great Colbert, at the expense of the French Government, sent M. Desgodetz, a celebrated architect, to Rome, to measure with the utmost accuracy whatever he found worthy of notice in the remains of Antiquity. On his return to France the results of his industry and application were published at the expense of the French Government. In this splendid work all the ancient buildings are most judiciously shown in the state Desgodetz found them without any attempt at restoration, the rock on which Palladio * and others had split. Amidst the merits of it must be noted that in almost every page we find the errors of Palladio and others pointed out. Of course, it might be expected that the labours of M. Desgodetz would have been the great desideratum required for correctness; but the reverse will be found to be the fact.** In proof of this assertion I shall exhibit a drawing of the Temple at Tivoli as given in his book, and likewise a drawing of the same building from my own mensurations which have been collated with those of several other persons. The uncommon accuracy of one of them in particular, who is a member of this Institution, is well known. (G. Dance, R.A.) (*Plates* 11-25 *and* 101.)

Other examples of the inaccuracy of this celebrated Architect might be given, but these are sufficient to show the serious difficulties the Student in Architecture has to encounter, more than those which attend the Painter and Sculptor, and I think it will be admitted that however arduous the undertaking may be to form a painter or sculptor, to make an Architect is not less so.

Painting and Sculpture are Arts of imitation and have always a model in Nature before them which is only to be copied, whereas Architecture being an Art of invention has no such models to refer to. Architecture owes its origin to necessity, and its high rank as an art to its power of pleasing and of contributing to the accommodation and convenience of all mankind; whilst the

**Note.*—Palladio, it must be admitted, took great liberties, and gave us what he thought the buildings should have been rather than what he found them. In the Temple of Antoninus and Faustina, Palladio tells us he did not find the least trace of any foundations beyond those of the Temple itself, nor any ornaments whatever, yet he concludes there must have been many very magnificent ones therein, and without any data other than the wildness of a heated imagination, in his rage for composition he imagines a grand Cortile surrounded with niches and statues without number, forgetting that to obtain sufficient space for his Plan many buildings which were known to have been in existence long before and after the Temple of Antoninus and Faustina must have been completely removed.

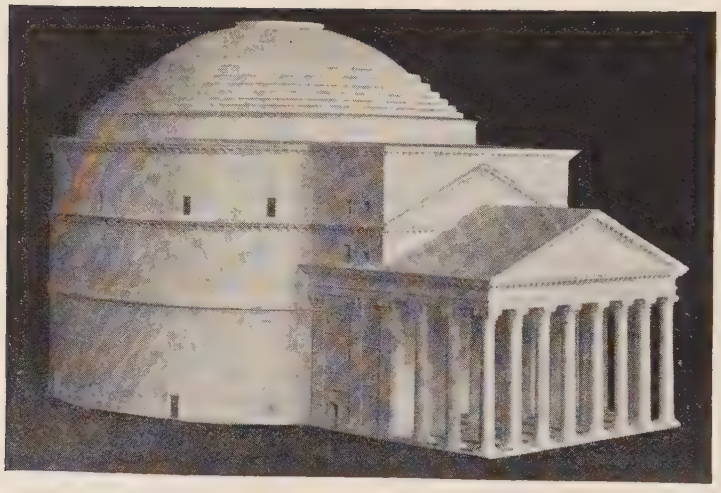
** R. & J. Adam began a book to expose the errors of Desgodetz which unfortunately was never completed and published. Taylor and Cresy in Rome in 1819, measured and drew the remains with great accuracy and published the Architectural Antiquities folio, 1821, possibly having heard this expression of Soane's views.—*Editor's Note.*

other Arts are chiefly indebted to luxury only, for the estimation they are held in by Society. As far as intellectual satisfaction is considered all the Fine Arts have equal power to please.

I have been induced to make these observations to counteract any ill effects that might arise out of some distinctions lately made in a public Institution, the object of which seemed to be to treat Architecture as an inferior brand of the Fine Arts — a mere mechanical Art within the grasp of any common mind.

Against all such novel illusory and unfounded opinions, I wish to express my dissent; and at the same time to point out the rank which Architecture has always held among the liberal Arts. We have only to recollect that in grammar the climax of excellence is marked by the positive, comparative, and superlative. We likewise say "Our King, our Country, and our God," and by a similar arrangement when speaking of the Fine Arts, we say, " Painting, Sculpture, and Architecture."

End of Lecture III.



The Pantheon, Rome

LECTURES ON ARCHITECTURE

By Sir John Soane, r.a.

LECTURE IV.—APPLICATION OF ORDERS, PEDIMENTS, ETC.

Mr. President,—The origin, proportions, and application of the different Orders of Architecture and also of Persians and Caryatides, as used in the external and internal decoration of Temples and other Public Works of the Greeks and Romans, having been already considered, I shall now subjoin a few observations on the further use made by the Ancients of that noble part of architectural decoration, the Column, a leading feature of each of the Orders.

Columns were not limited to the purposes already mentioned; they were often applied to record the actions of great men.*

From Homer we learn that Ulysses raised a Column on a hillock in memory of Elphenor, who broke his neck by falling over a staircase in the Palace of Circe.

Pompey the Great, as we are told by Pliny,** erected many trophies and triumphal Columns commemorative of his splendid victories. At another period a Column decorated with prows of vessels was dedicated to Duilius, in honour of his having gained the first Naval Victory *** over the Carthaginians. These instances and the Column erected in the centre of Trajan's Forum **** as well as the Column of Antoninus at Rome, and that of Theodosius at Constantinople, together with the Temple of Juno, supported by columns, on which, according to Pausanias, different traits of Fable and History were represented, explain the use made by the Ancients of Columns. Such instances may at the same time be considered as so many historical records of Antiquity.

So great was the love of the Ancients for Columns, and so necessary were they considered in the decoration of their Temples, that historians tell us it was very common for several of the small Grecian States to join in the expense of building a Temple to their favourite Divinity, each State, separately, not having the means of erecting a suitable building. This relation is in some degree established by the remains of a Temple at Jackly, where on the shaft of each Column there is a small tablet, on which is inscribed the name of the person at whose expense it had been presented. In the works of the Egyptians we frequently see Porticoes of four, five, and sometimes six rows of Columns disposed in parallel lines. (*Plate* 3.) At Palmyra are the prodigious remains of a most magnificent Portico of several thousand feet in extent. (*Plate* 1.) In Rome,

*Note.—If a Column is used for such purposes, in such cases we are not confined to the strict rules of the Order; it would be absurd to introduce Frieze or Cornice; perhaps the Pedestal may be used with peculiar advantage to raise the base of the Column at least as high as the eye of the spectator.

For want of recurring to first principles, when I built the Column for Mr. Evelyn at Felbridge, the Column there was surmounted with an architrave, frieze, and cornice.

** Pliny. L. 7. C. 26.

*** The first Pillar or Column on which a statue of brass was placed was of P. Minutius, the expense of which was defrayed by the people of Rome, each subscribing voluntarily the value of an ounce of brass coin. —Pliny L. 34, C. 5.

**** Dion Cassius says that the pedestal of Trajan's Column was intended for his monument (then it must have been for a cenotaph) and the Column to record his actions. Others have supposed that the ashes of Trajan were preserved in an urn, and deposited in the centre of the pedestal of this Column.

We are told that in order to perpetuate the memory of the victories of Trajan over Decebatus, King of Dacia, and to transmit to posterity the history of his Dacian conquest, the Senate and people of Rome caused this column to be erected, on which the progress of Trajan's Wars in Dacia are represented in basso-relievo.

Without the actual examples of sculpture, introduced in this manner on the Trajan and Antonine Columns, we should perhaps have had some difficulty as to the practicability of such records.

The Column near Assinaris in Sicily is another example of an Historical Column.

Plutarch in his life of Nicias says that great man erected a Pillar in the Isle of Delos, and inscribed on it an account of his benefactions.—Plutarch. Vol. III. p. 254.

Agrippa erected a noble portico of marble columns round the Septa,* or Comitia, which had been previously only surrounded with wood. There was also another Portico in Rome of uncommon grandeur, erected at the expense of Pompey the Great, for the accommodation of the Roman people, considerable remains of this work were still to be seen in the Seventeenth Century. Of the Portico of the Argonauts, attached to the Temple of Neptune, in which Agrippa ** placed pictures representing the expedition of the Argonauts, unfortunately there are no remains. The Portico of Octavia, erected by Augustus in honour of his sister, is a work of great beauty and extent. In it were contained the Temples of Jupiter and Juno.*** Of these buildings parts are yet remaining.

From Columns the transition will be to the Antae, or Pilasters,**** of the Greeks and Romans, a part of my subject which requires particular attention. The Greeks seem to have confined the use of Antae chiefly to Decoration, and in order to make their appearance pleasing, and to harmonise them with the Columns, they assigned to the Antae a base and capital, analogous to the Order they accompanied, only less decorated. As the Antae represented the end of walls, we therefore, in all the best works of the Greeks and Romans, find them undiminished. According to Vitruvius, the Grecian architects made the Antae as wide as the diameter of the columns they accompanied. In the remains of Grecian structures Antae sometimes correspond in their width with the inferior, and sometimes with the superior, diameter of the Columns, agreeably to the character of the Order with which they are used. Here be it particularly noticed that in Grecian structures Antae were never used without Columns to accompany them.

In the inestimable remains of Grecian Architecture, Antae are seen wherever the walls of the Cella form salient angles, and also at the ends and returns of those projecting walls which form part of the Pronaos of their Temples. The Antae are also returned on the sides or flanks of Prostyle Temples. In such cases the mouldings of the capitals of the Antae are continued under the architrave from one Anta to another. When Antae are employed in this manner, as in the Temple on the Ilyssus, they are generally made narrower on the flank, or side face, than on the direct front view.* The reason of this is obvious—namely, to prevent that unavoidable disproportion which in some oblique views would be apparent to every eye if the front and flank (or return face) of the Antae were of equal width.

*_Note._—The Septa, or Ovile, so called from its resemblance to several sheepfolds, was a place in the Campus Martius, where the Comitia, or assemblies of the people, were held for the election of magistrates.

The Curia of Tullius Hostilius has been by many considered as the ruins of an ancient Portico. Others have supposed it to have been the Nympheum of Nero. Piranesi, in particular, was of this opinion, and his inventive fancy has accordingly from these ruins formed a most elegant Plan of what it was. Piranesi, Ant. Rom. tom. I. Ta. 41.

**Agrippa composed an Oration pointing out the advantages to Art, and to the public taste, if pictures and statues were considered as belonging to the public, and not dispersed over the country, or hid, as it were, in private dwellings.

***This portico and the two Temples are shown on the ancient marble plan of Rome (Tab. 2). Some remains of these buildings still exist in the Pescheria and in the Church of Sant' Angelo. (See Piranesi Ant. Rom. Tom. IV. Ta. 39. See Desgodetz.)

In one of these Temples the celebrated Venus de Medecis was discovered, a sitting Statue of Cornelia, the mother of the Gracchi, was also found in the same place.

Pliny informs us that the Temples within the Porticoes of Octavia were created by Scarurus and Petrarchus, two Lacedaemonian architects, who offered to perform the work at their own expense if they were allowed to inscribe their names to that effect. This request was refused, but they contrived to preserve their names by an hieroglyphical or symbolical engraving, "in spirits columniarium," of a Lizard and a Frog, the Greek names of these animals being the same as those of the two architects.—Pliny, Lib. 36, C.5, and Winkelman's Mon. Inediti, page 269.

Note.—**** Pilasters, properly speaking, are square columns, that is to say when detached. Antae are the flat projections used to strengthen Greek buildings, and they were frequently less in width on the flanks than in the fronts. In the front view the diameter of the column usually determines the width of the Antae, but in the flank the object of strength is obtained with less superficies, and consequently heaviness is avoided.

Pilasters, properly so called, do not exist in Egyptian Architecture. It is too much perhaps to regard the solid masses at the extremities of some of their Temples as Pilasters, or the small square projection in the sepulchral chamber of one of the great Pyramids where these projections are only six inches on the face, and about three feet apart.

Quatremère de Quincy. p. 114.

* When this is not done some have supposed them to appear larger at the top than at the bottom. This is contrary to every idea of optical effect.

Antae are sometimes placed behind Columns to receive the ends of the entablatures, as in the Triumphal Arches. We also see them in the peristyles of Peripteral Temples facing the Columns at the external angles of the walls of the cella, to strengthen those parts and to shorten the bearings of the transversal architraves, and for other purposes, and on other occasions.

In all the examples referred to the Antae are introduced more for decorative appearance, and in order to preserve the symmetry of the whole Composition, than for any real strength or advantage. From these circumstances we are led to conclude that the Greeks considered them not as principals or essential ornaments, but merely as accessories. In the latter ages, as taste declined, the application and original use of the Antae, founded on sound judgment, and in the spirit of the true Greek imitative system, ceased to be adhered to. Of this truth, although we have innumerable examples, I shall only show one, in a Temple at Palmyra, where the Antae are placed at the angles of the Cella, and are also continued at equal distances upon the whole extent of the flanks.* This abuse of the Antae by some of the ancient architects has been almost universally adopted by the moderns.

In the Porticoes of the Churches of St. Martin-in-the-Fields and St. George, Hanover Square, and in many other buildings, Pilasters are placed, not behind the external Columns only, as in the Ancient buildings (for which a reason has been assigned), but are also placed behind each column of those Porticoes. In the Portico of the Church of St. George, Bloomsbury, three-quarter columns are attached to the walls behind those in front. In these examples simplicity has been entirely neglected, and first principles dispensed with.

In the circular Peripteral Temple at Tivoli, (*Plate* 11), and in that of Vesta in Rome, there are no Pilasters answering to the columns, yet Bramante, with these fine examples before his eyes, has not scrupled in his celebrated little circular peripteral church of San Pietro in Montorio to crowd Pilasters behind each Column.* These practices are contrary to every principle of good Architecture, and to every idea of simple beauty and utility. We too often forgot:

> "It is use alone that sanctifies expense
> And splendour borrows all her rays from sense."

From these and similar abuses and misapplications of Antae and Pilasters war has been declared against the use of them in any case and on any occasion. A series of Antae, or Pilasters, cannot be admitted where grandeur of effect is required, yet surely many examples might be produced where Pilasters, when correctly proportioned, properly disposed, and suitably accompanied, have great merit, and strong claims to the approbation of the most fastidious admirer of Antiquity. Particularly so when Antae and Pilasters are combined judiciously with Columns, as the abrupt transition of light and shade of the former is powerfully contrasted with the smooth, gradual, and almost imperceptible changes in the lighting of the latter. The Temple of Victory without Wings at Athens is a fine example of what is here advanced; so is the Temple of Esculapius at Agrigentum, the Temple on the Banks of the Clitumnus (between Foligno and Spoleto), (*Plate* 16), the Portico of Octavia in Rome, and the never to be sufficiently admired Portico of the Pantheon. (*Plate* 26). The interior of the Pantheon, as well

*Note.—Thus the Antae have been added, without meaning or propriety, to supply the want and deficiency of taste. So in the entablatures, and other enrichments of later times, every part is crowded and generally confused with a multiplicity of different Ornaments, without any of the taste and elegance of design or execution, visible in the works of the Greeks. The moderns, unable to produce the powerful effects seen in Grecian works, were determined at least to surpass them in the richness and quantity of the decorations of every kind. This is like the Painter, who failing to represent Helen beautiful, adorned her most magnificently with jewels and embroidery. Apelles, being asked by the Painter his opinion of the picture, replied, "I cannot say that you have made Helen handsome, but it must be confessed you have made her uncommonly rich."

* In this building the blocking course is most properly omitted, this, however, produces a difficulty as to the balustrade, which is here placed immediately on the cornice, upright with the face of the frieze, and, of course, the balusters appear mutilated. All this proves the impropriety of placing a balustrade in such a situation—i.e., with Columns. It is worthy of remark that Raphael, in his St. Paul at Athens, has placed the balustrade in one of his Grecian buildings in the same manner as in this work of Bramante.

as many others among the ancient examples, may be adduced on this occasion. When, however, Pilasters interrupt a range of columns, as in the Chapels of Versailles and Caserta, and as in the case of the Screen in front of Carlton House, they so entirely destroy the Unity of Composition, so well understood and practised by the Ancients, and so seldom seen in the great works of succeeding times.* (*Plate* 23.)

Pilasters when used with Columns, as in many of the Ancient buildings, must unavoidably have the same entablature continued over them as over the Columns they accompany. If Pilasters, however, are used alone, as principals in a composition, as in some of the ancient brick Temples in Italy, and as in the monument of Caius Bibulus in the Corso in Rome, the entablature must be made much lighter than if placed over Columns of the same height. The same entablature differently accompanied, although similar in quantity and profile, always produces very dissimilar effects. If, for example, the simple entablature over the columns of the Ionic Temple on the Banks of the Ilyssus at Athens is placed over slender pilasters, as frequently occurs in modern works, instead of being over columns, as in its original application, although the extent of the whole mass, and the height and projection of each part ** should be the same, the effect will notwithstanding be very different. How much more apparent will this difference be when the massive entablature, designed for the Doric column, is placed over slender Pilasters. The effect of the whole must then indeed be preposterous; but, however unaccountable this may be, such practice is but too common, and I shall be obliged in the discharge of my duty to produce in the course of these Lectures different examples * in modern works of this strange and extravagant absurdity, which is daily increasing. I lament to observe a practice of transposing from the Antique, without regard to character and propriety, this, if not checked, must in a short time destroy every idea of Grecian Architecture.

Pilasters, entirely detached, showing four equal faces, seldom occur in the remains of Antiquity. There is, however, an instance in a monument at Mylasa,** another in the Temple of the Clitumnus before quoted, and yet others at Palmyra and Baalbec. The advocates for these insulated square Pilasters, at the extremities of Porticoes and such like situations, say that Columns at the extremities of peristyles and other buildings give the entablature the appearance of being left hanging in the air without any apparent support. This in some oblique views is partly true, yet in many Greek works the lower face of the architrave is made upright with the inferior diameter of the Column, which must materially increase the effect of leaving the entablature unsupported. Some have therefore concluded that the Greeks did not consider this appearance so defective as it is in the eyes of modern artists. (*Plates* 16-24.)

Pilasters, in different periods of Antiquity, assumed different degrees and shades of importance. In the Curia of Tullius Hostilius, and in the Monument of Caius Bibulus in the Corso in Rome, they are prominent features. They are also seen in the exterior of the Coliseum and in other ancient structures, particularly in those of Palmyra and Baalbec. In the works of Palladio Pilasters frequently occur. Scamozzi and Serlio were likewise particularly attached to them. In England the great expense of building occasions even a more general and often successful use of Pilasters.

**Note.*—This continuity is most happily exemplified in Drury Lane Theatre. It is to be lamented that it was not extended to the entrance front, where the plastered Antae with enriched capitals break up the grand and noble simplicity of the other parts of the composition.

***Note.*—This bad effect is particularly evinced in a large building at the corner of Great Russell Street, next to Bloomsbury Square, and also in the front of the Duke of Queensberry's House in Burlington Gardens, built from the designs of Giacomo Leoni and since added to.

* The front of the British Institution in Pall Mall. The front next Portugal Street of Surgeons' College.

** This work must be of the low times after the subjugation of the Greeks.—("Voyage Pittoresque de la Greece," p. 44.)

In the exterior and interior of St. Paul's it is, however, impossible not to lament the almost general substitution of Pilasters for Columns. The fronts of Shaftesbury House in Aldersgate Street, Lindsey House in Lincoln's Inn Fields, and the Houses in Great Queen Street are well-known examples of the use of Pilasters. (*Plates* 47-106.) In these buildings, although we may regret the absence of Columns, yet the simple and pleasing effect of the Pilasters almost makes us advocates for them. At least there is more interest produced by them than by the cold monotony of plain unbroken surfaces. A series of slender Pilasters, however, placed on a high basement and continued in a building of considerable extent * will make the whole front appear flat and insipid. If, moreover, the Pilasters are executed without bases, contrary to the example in the Temple of Theseus, the whole Composition is thereby rendered meagre and unfinished.

In modern buildings Pilasters and Columns are often seen mixed in the same front, as at the Banquetting House, Whitehall (*Plate* 62), the front of the Treasury next the Park, and in many other examples. The Column and Pilaster both suffer by such combinations. This sort of composition may show a great attempt after novelty, but it is destructive of every idea of continuity and harmony of parts.

Vitruvius, in his Fifth Book, speaking of the Basilica at Fano, describes a sort of Pilaster, Parastatae, as he calls it, attached to columns, which Palladio and his imitators have often used.** This deviation from the pure system of the Greeks, by such high authority, will be more particularly noticed in a future Discourse.

After all that has been said against the general and improper use of Pilasters, they are yet certainly entitled to consideration, particularly when used judiciously with Columns, as in some of the examples already noticed. Although Pilasters have neither the elegant flowing outline nor the graceful variety of the Column,** still we have many examples in the remains of ancient edifices of the later ages, where Anta or Pilaster has been preferred to Column. This cannot be wondered at when we consider how much less time, difficulty and labour, and consequently how much less expense, is required in making a Pilaster than in shaping a Column. Columns, comparatively speaking, demand the abilities of a Ctesiphon and the purse of a Herodes.

I have endeavoured to show the origin and also the application of Pilasters in ancient and modern works; and I have enlarged more particularly on the use and abuse of this part of architectural decoration, having observed the misapplications and absurdities that have been produced by the improper introduction of Pilasters in many modern buildings.*** These abuses are daily increasing, and if persisted in must ultimately produce serious innovations and fancies, which cannot fail to be destructive of true taste, and to be prejudicial, if not fatal, to the taste of the young Architects, while reducing Architecture to

*Note.—See front of a house in Bedford Street, Covent Garden.
In the front of Governor Hornby's house in Portman Square.
In the front of the "Crown and Anchor" Tavern.

** In the villas and other designs of Palladio and his contemporaries, as well as in the works of succeeding ages, we see not only this defect but also Pilasters and Columns blended together in the same front,* sometimes where the entire façade is only of limited dimensions. This makes a division of parts in many cases very prejudicial to the general effect, and creates littleness where grandeur to a certain extent might have been expected. In this country the same practice is very common, as at the Banquetting House, Whitehall, and in other works of Inigo Jones and his followers. This too great subdivision of parts is one of the great errors of modern Architecture, and should be contrasted with the contrary practice in the exterior of the Farnese Palace, the Farnesina, Stoppani, etc.

* Where this practice arises from economical motives, in all such cases it will be better to omit the Order altogether.

** To show the superiority of columns, contrast the façade of the Louvre with Columns with the other in which Pilasters predominate, or draw the same front with Pilasters instead of Columns.

*** These and similar absurdities, and deviations from the practice of Antiquity and the observance of first principles, may be traced back to the fact that those who build are deficient in taste, and instead of employing men of science and skill they confide in workmen to form, direct and execute many both public and private buildings. On this infatuation, which I trust will not continue, I shall have occasion to enlarge in a subsequent discourse. Lecture XI, pages 178-179.

little more than a system of mere whim and caprice.

We now come to the Pedestal, another accessory in Architecture which is used, not only with each of the Orders, but likewise on many other occasions.*

Vitruvius speaks of the Stereobate, which probably refers to the plain zocle placed under detached columns, of which we have many examples at Palmyra and Baalbec. Vitruvius also mentions the Stylobate, or continued Pedestal, used to support a Peristyle of Columns, as in the circular peripteral Temple at Tivoli, in the pseudo-peripteral Temples of Fortuna Virilis at Rome, and the Maison Carrèe at Nismes. (*Plate 25*).

This species of continued Pedestal is highly proper; it gives the Peristyle an elevation, which contributes most essentially to increase the grandeur and general effect of the entire edifice. Pedestals, however, placed under detached Columns cannot be admitted in regular Architecture, notwithstanding that many examples of this practice occur in Grecian and Roman edifices—such as the Stoa at Athens, the Incantada at Salonika, the front of a Temple at Seisi in Umbria, and most of the Triumphal Arches. In all these works the Pedestals are very considerable features. How are we to account for the frequent recurrence of this strange practice in Ancient buildings, so repugnant to the general principles of solidity? Are we to suppose that Pedestals were thus used because they could not be supplied with stone, granite, and marble of sufficient dimensions; or was it occasioned from an idea that, if the height given to the Pedestal had been added to the height of the Column, it might lessen the symmetry of the whole building? This latter conjecture, for it is no more, is at least probable, for Vitruvius tells us that in Temples the height of the Column is to be proportioned to the whole length of the front. It must, however, be admitted that Pedestals are but an insufficient expedient at best, for they destroy in part the beautiful character of the Column, giving it a ricketty and gouty appearance. Notwithstanding all the precedents quoted, Pedestals should only be used from absolute necessity, where the site of the building is fettered with irregularities.

In the works of Palladio we sometimes see the Columns of Colonnades placed on Pedestals, with balustrades between them. This practice is also very common in buildings erected since his time, generally from the taste of the architect, although sometimes from necessity, as at Lord Bessborough's beautiful villa at Roehampton—a work of that great architect, Sir William Chambers, where the marble columns brought from Italy being too short, Pedestals were added to lengthen them.* I shall not in this place speak of the relative proportions of the Pedestal to the Column : much may be learned on this head from Books on Architecture, and much more must be acquired by attending to the local circumstances, which will occasionally compel the Architect to use Pedestals in his Composition.

Having disposed of the Orders of Architecture and their principal accessories, the Pediment, which owes its origin to necessity, now presents itself. This important feature in Architectural Composition, by its beautiful and impressive form, becomes peculiarly interesting when classically and correctly introduced. The imitative system of the Greeks led them to treat this noble decoration as a principal feature in their Architecture. Among the Romans the Pediment was so much respected, and considered so important, that it was confined entirely to buildings sacred to their immortal Gods. We are told that Julius Caesar was allowed, by a special decree of the Senate and People, to have his palace decorated with a Pediment, as a mark

* Pedestals are very properly applied for the support of statues, and groups of figures

* All these expedients are bad, although less intolerable than that adopted in the flank of the late Drury Lane Theatre, where the bases of the Columns followed the declivity of the ground, and the entablature was kept in an horizontal direction. This idea was probably borrowed from Bernini's staircase at the Vatican and from Blackfriars Bridge. At Blackfriars Bridge the bases of the Columns are in the same line, and the entablature follows the curvature of the superstructure, and by breaking over the Columns of each pier in some measure justifies the irregularity.

of high distinction and particular respect. It is worthy to be remarked that, notwithstanding this latter fact, Vitruvius complains against the improper and general use of Pediments, which may be considered as another proof of his not having lived in the age of Augustus, or Titus.

In Grecian Architecture every form and proportion grew out of the most refined and correct ideas of utility and beauty in their buildings. The Pediment, therefore, was low and extended over the entire front of the edifice. The Romans likewise, in many of their buildings, followed the example of the Grecian architects, as in the Temples of Antoninus and Faustina, of Fortuna Virilis, of Concord, and of the Clitumnus; also in La Maison Carrée at Nismes (built in the time of Antoninus Pius), and in many other monuments now remaining. It is, however, to be observed that in Roman buildings the height of the Pediment was considerably increased, probably because the Architects of Italy considered the increased pitch as more suitable to their climate. From the same consideration and regard to climate we see that the roofs of buildings in Northern climates are very considerably higher than even those of the Romans.

No form can be truly beautiful that is inapplicable to its situation. By an association of ideas, the flat Pediment of the Greeks, when used in this country, must appear to the most superficial observer insufficient to protect the building from the effects of snow, rain, and tempest, and consequently it cannot be pleasing, and will not be found to be Capra.** (*Plates* 26-27-76.)

The extraordinary height of the roofs in most of our old Gothic buildings has been supposed to have been occasioned by the impression arising from the powerful effect of height on the minds of the architects of those times. This was probably one cause, but there was another not less powerful, the species of materials. The roofing of many of those buildings was of reeds or straw; and such is the force of habit, in all ages, that in succeeding times when the power and riches of the Church had increased and lead was used for the covering of sacred buildings the same passion for high roofs still continued.* Pausanias tells us that in his time some of the Temples in Greece were covered with reeds and straw, and in the very heart of the city of Norwich there is to this day a church to be seen whose roof is of straw.

In many modern works the roof is often considered as a secondary object, whereas in fact, whether it be flat or pointed, it must always be an essential part of every building. So much is the character of the structure itself identified in the roofing, that if roofs, originally calculated to be covered with reeds, straw, or tiles, are afterwards covered with materials, which do not require the same degree of elevation, fitness is thereby violated, without which no form can satisfy the eye of judgment and reflection. The roof of Covent Garden Church, originally tiled, being now slated, the whole building has thereby lost much of its appropriate beauty and character through this innovation of modern refinement. (*Plates* 13-14.)

The Pediment of the Portico of the Pantheon makes a noble finish to that glorious work. It was enriched with sculpture in the Tympanum, and by a Triumphal Car over the centre. This Portico was an addition only to the main building, and therefore when speaking of it it must be considered by itself, and not in proof of practices which, being an added feature, it will not justify—I mean such applications of Pediments as Palladio has adopted in finishing the Porticoes of the Villa Capra.** (*Plates* 26-27.)

When the beauties of Architecture were not appreciated, and correctness of application had been forgotten, every kind of capricious use of the Pediment occurred in the exterior of Ancient works. The Roman Baths, the Palace of Diocletian at Spalatro,

* This is exactly conformable to what has been before observed of the Greeks, who in their buildings of stone and marble placed a Column in the centre because in their primitive huts it had been so placed from necessity.

** This Portico, with its Pediment, being decidedly of the Augustan Age, it has therefore been quoted to sanction the modern practice of raising a spire over the Pediment of a Portico, and for placing a Portico in the centre of a building with a Pediment over it.

the Temples at Palmyra and Baalbec, are full of examples of this bad practice and a general disregard of fitness and propriety. Nor is the misapplication of Pediments confined to the exterior of Ancient buildings. Pediments frequently occur in the interior of several of the Ancient works already mentioned, particularly in those at Palmyra and Baalbec. Indeed, the mania extended not only to the triangular and circular forms, but also to broken and open Pediments. This cannot be matter of surprise to us when we so completely lose sight of fitness and propriety as to use the Pediment—that is, strictly speaking, the roof—in the interior of our own buildings. Who will say where such absurdities will stop. In the decline of taste we may expect, and indeed are prepared to encounter these and every other deviation from classical purity and correctness, but how are we to account for the alternate, triangular, and round Pediments over the Altars in the Pantheon? This work, being undoubtedly of the Augustan Age,* has by some been supposed to have been the great Hall of Entrance to the Baths of Agrippa, although from the Plan it is clear there could have been no communication opposite the door of entrance. If it had formed a part of the Baths of Agrippa how could Pediments have been admitted when (as has been already observed) we are told that in the proceeding reign it was permitted to Caesar only to roof his house with a Pediment?

Many modern architects, of no small celebrity, have quoted the Pediments over the altars in the Pantheon, to sanction (from ancient examples) the use of them in the interior of buildings. The Pantheon, correctly speaking, is an Hypaethral Temple, of course open in the centre. The altars, therefore, required roofs to protect them from the weather, and thereby justify the architect in placing Pediments over them, but these Pediments can never be brought in proof that the ancients used Pediments in the interior of their buildings. Even if this were not the fact, no example, however respectable, can justify the adoption of that which is repugnant to common sense, and to those first principles, which every man should comprehend. If precedents alone were sufficient to guide us, Architecture is at an end, there can be no respectability attached to it, for the remains of Antiquity, of the low times at least, will give examples to justify every extravagant fancy and wild vagary of the most contemptible dabbler in Architecture.

The Pediment * represents the roof, accordingly, in the best examples of Grecian and Roman Antiquity; it extends over the entire building, and is always of the triangular form, a figure the most simple and natural, and perfectly comformable to first principles. From the pure remains of ancient edifices we are taught that only one Pediment can be introduced in the same front, and that no Pediment, of whatever form it may be, can ever be used in the interior of a building.

Although the Pediment is an important and beautiful feature in every Composition, yet it brings with it some contradictions, difficulties, and discrepancies when connecting the horizontal cornice over the columns with the raking cornice of the Pediment. As the cornice in its essential parts refers to the roof, the Greeks were aware of the impropriety of continuing it under the Pediment. When they admitted this contradiction it was because they preferred sacrificing a propriety, which the million could not be expected to comprehend, to a beauty that all must feel. There was a stronger reason for omitting the upper cyma than the whole cornice because, according to Vitruvius (and as may be seen in the Temple of the Winds at Athens) in this

* Sir John Soane would have been profoundly interested in the modern discovery that the Pantheon portico was altered and rebuilt to serve as a porch to a Rotunda of a date as late as Hadrian.—*Editor's Note.*

* The origin of the Pediment is to be traced in the gable ends of the primitive hut of the Greeks. It was the most natural and simple manner of covering the whole structure, as in the Temple of Minerva and in most of the ancient temples. Thus we see why the Pediment can have no building above it, as in the Triumphal Arch at Orange, and in many other Ancient works, without violating every principle of characteristic correctness and true effect. When the Pediment is used in a manner for which no good reason can be assigned, it is a defect, and not a beauty, to which we are reconciled by a want of reflection and from having such deformities too often before us.

upper member heads of Lions were introduced to carry off the water from the roof, this, according to Vitruvius, was the invariable practice of the Greeks in all their most perfect works.

In the Pediments used in Roman Buildings, we have the same bed-mould to the raking as to the horizontal cornice. The tympanum is likewise placed upright with the frieze. In the Grecian Pediment the bed-mould in the raking cornice is omitted, and no more of the cornice is retained than is absolutely necessary. The typanum of the Pediment stands considerably before the face of the frieze, to prevent the projection of the horizontal cornice from hiding any part of the sculpture, with which the Greeks usually adorned the tympanum of their Pediments. Thus we see that on this, as on all other occasions, the Greeks had substantial reasons for whatever they introduced, and they are so many proofs of the sagacity of the Greeks.

In the Temple on the Clitumnus (*Plate* 16), the same cymatium is continued in the horizontal part as in the inclined cornice of the Pediment; but in the best works of Antiquity the upper members of the cornice are omitted in the horizontal part, an omission which many have hastily supposed to have been due to a mere matter of fancy or chance.

In the loggia of the Duke of Queensbury's house at Amesbury, Inigo Jones has omitted on each side of the Pediment the upper moulding of the raking cornice. This is contrary to every idea of beauty, and to those principles which formed the basis of Grecian Architecture. This circumstance is the more necessary to be noticed as the same deviation from classical purity has been followed in a recent work of a justly celebrated architect, and immediately after indiscriminately copied in two other buildings of great expense.*

Nothing can be more beautiful than the Pediment when properly introduced, nor is any part of architectural decoration so often misapplied, not only as has been shown in some of the Ancient but almost generally in modern constructions. There can be no doubt about the Pediment: it represents the end of a roof, and of a roof only. When it is used in a manner that destroys that idea it is improperly placed and becomes a defect instead of a beauty.

The Church of St. Paul, Covent Garden, (*Plates* 13-14), is a noble example of the appropriate application of the Pediment, and there is another equally deserving of praise in the drawing which accompanies this work of Inigo Jones.

A Pediment introduced to mark the centre of a building is not justifiable, as in the celebrated front of the Louvre, in the front next the Park of Lord Spencer's House, in Devonshire House, and in many other examples. A Pediment at each end of a building, as in the partly executed street front of Lord Spencer's house, leaving the space between as if intended to be without any roof, is equally objectionable. We have also many examples of three Pediments in the same front, one at each end, and another in the centre introducing two different dimensions.*

In the front of the new church in the Strand; Gibbs (the immortal Gibbs according to Morris) has introduced a series of Pediments. Another proof of our fondness and blind attachments to Pediments may be seen in the front of Stafford House; we have here two Pediments placed above each other.

Possibly I may be told the Pantheon (*Plates* 87-88) justifies this fancy. Many other examples might be produced of the licentious introduction of Pediments, perhaps even worse than the new Church in the Strand, which the severity of the Poet has given greater notoriety to in this building (on which Pope observed) it was (Blank in MS.).

The Pediments appear as the representation of a series of gables such as we see introduced into many of our old buildings for the purpose of introducing light into rooms behind them.

Other examples might be here adduced,

*In the front of Covent Garden Theatre (*Plate* 28) and of the Excise Office on Tower Hill.

**Note.*—One example in particular of this last defective manner of composition will naturally present itself to my auditors, it being situated near another work of the same artist which cannot be unnoticed and will be the admiration of every lover of Architecture, who has the least taste for correct and powerful genius, or any knowledge of those principles which directed the great architects of Antiquity. (*Plates* 13-14.)

where the great line of the front is broken by various parts receding and projecting although but little from the general line of the front while the centre is raised higher than the parts on each side and finished with a Pediment as at St. Luke's. In other cases the centre and end pavilions project considerably beyond the main body of the building. This last mode may give more movement and more effect of light and shadow, but it does nothing for the Pediment, we are equally unsuccessful in securing unity in the composition. The pointed and flat roof cannot be used in the same building, at least not with propriety. It brings discordant parts together. It breaks that unity and connection which ought to reign throughout the whole, without which the whole composition appears to be a patchwork of different ages, and erected for different purposes. It is in fact combining the manners of different ages in the same buildings. Although the parts are beautiful in themselves, yet from want of fitness and proper connection they can no more please the judicious than a picture expressive of the glorious deeds of a Cymon, or Themistocles, would do, if the painter had jumbled into his composition the Boors of Teniers. Notwithstanding that they were represented with all the force of his magic pencil, still we should be disgusted in spite of the abstract beauty of those incoherent parts. To put the case in another way it is like blending the events of one period with those of another.

In some of the foregoing examples in which Pediments are used, it may be said that the building being plain and of brick, architectural effect and propriety were not consulted, and the Pediment was merely introduced to produce at least some movement in the front, columns and pilasters being rejected on a principle of economy. Be it so; but then take an example of very late date, in which an attempt, most unsuccessful indeed, has been made to introduce something like Architecture. Here is a Pediment in the centre of the front, over this another roof; then come skylights formed on the inclined roof a la Mansard, and then roofs upon them. This is a climax indeed.

In all these examples the effect of the Pediment is less and less impressive, propriety of application has been sacrificed; the requisite gradation of parts, the unity of design, so essentially requisite to produce that harmony and effect, that perfect whole, which all can feel and admire, are sought for in vain.

In many buildings, both ancient and modern, Pediments have been used in situations still more objectionable than those already mentioned, and in others an Attic or even an entire Order of Architecture is placed over them.

It would be tedious and not absolutely necessary to point out more examples of these improprieties,* so glaring that they could not be endured even in scenic representations. Of this fact Vitruvius gives the following instance :—

Apaturius of Alabanda had painted a scene for a Theatre in which he had used Statues and Centaurs to support the roof and the projecting extremities of the Pediments, and had also ornamented the cornice with lions' heads. These parts having reference to the roofing and eaves of edifices, nothing could be added without the most evident violation of propriety. Apaturius, however, being a better painter than an architect, repeated above this work in his Episcenium all the various parts of another building. As the whole was executed in a masterly manner general approbation would have been given to it by the multitude, had not Licinius, the Mathematician, condemned the work as a public disgrace upon the City. For, said he, how can Columns and Pediments be placed

*It would be endless, and, after what has been already said, in some degree useless, to point out all the different places and different modes in which Pediments have been improperly introduced even by artists of most distinguished and superior talents. Many of the great artists of Italy, who united Painting and Sculpture with Architecture, were less attached to the Pediment than those of succeeding times, not because they were not sensible of its beauties, but because they, like the Egyptians, delighted in large simple parts and long unbroken lines. Those great artists felt the difficulty of placing the Pediment with propriety without sacrificing magnificence.** In modern works Pediments abound; they are of all dimensions and forms and in every situation, seldom with any regard to fitness of application.

**The Farnese Palace, the Pitti Palace, the Farnesina, the Stoppani, the Palazzo Massini, are proofs of what is here advanced.

with propriety upon the tiles and the roofs of houses? Although, from men being accustomed to view absurdities, their judgment may be depraved, yet we must not approve in Painting what cannot be in fact. To the honour of Apaturius, it is added that instead of defending his work he removed the scene and by proper alterations made it consistent with truth.

The public condemnation of this impropriety, although committed in a scene only, could not fail of making a strong impression on the minds of the architects of those days, and was perhaps one of the great causes of the superior excellence of so many of the Ancient edifices.

If Licinius was justly offended with this extravagance, in a mere scenic representation, what would he have said of the distorted architecture in some of the great compositions of Rubens, or of the twisted columns in one of the cartoons of the divine Raphael, or of the Roman Architecture in another of the Cartoons, where the different Styles of various ages are blended together although the scene represented is the Areopagus at Athens?

If we had a Licinius among us he would be fully employed. I know not whose works would escape just censure.

The Balustrade, another decoration connected with the roof, is not only useful but likewise beautiful. The application of this part of a building is often as absurd as that of the Pediment itself.

I doubt whether a Balustrade can ever be introduced with the Orders of Architecture, or on either side of a Pediment; and certainly it can never be used with success to hide part of an inclined roof. The experiment was most confessedly made for this purpose in the building, here represented, which was originally finished with one of the illegitimate blocking-courses already spoken of.

In the exterior of this building, among many things to be avoided, I must comment upon the great number of different apertures in the entrance front, amounting to nine or ten. This kind of composition has been particularly noticed by the late Sir William Chambers in his excellent Treatise on Architecture, as follows:—

> "The common sort of builders in this country are extremely fond of variety in the ornaments and dimensions of the windows, and indeed in every other part of their buildings. In the front of a house in Berkeley Square, which has only eleven windows, they are of seven different sorts. The front of Ironmongers' Hall has seven different kinds of windows, and the same variety is to be met with in many other buildings both in town and country."
>
> "I would recommend," continues Sir William, "to these inventive gentlemen to give their attention to the tailor, who does not employ six or seven sorts of buttons on the same coat; nor does the cabinet-maker introduce different kinds of chairs into the same room. This foolish hankering after variety arises from our not feeling any of that amazing greatness and noble simplicity to be seen in the works of the Ancients."

I am myself indeed disposed to think that Balustrades can never be used with propriety except with a flat roof, as at the Queen's House at Greenwich. For this reason we see Balustrades used more frequently on the Continent, where the roofs are more generally flat.

When Balustrades are used on Terraces, and as a protection to flat roofs, we can perceive their fitness, and are pleased with the light and elegant effect produced, I doubt, however, whether it is correct, that is, whether the eye of taste and reason will be satisfied with the introduction of balusters in the finishing of a bridge. They seem to want the essential massiveness; but this may in some degree be a prejudice, derived from a study of the Antique Bridges, all of which have solid parapets.

If Balustrades to Bridges are made proportionally massive so as to in some degree justify their use, by such an increase of scale the relative magnitude of the Bridge will be lessened, as may be seen by comparing the superstructure of the Bridge at Blackfriars with that over the same river at Westminster. (Both since destroyed.)

The abuses of the Pediment and Balustrade are serious and growing evils, which have increased, are increasing, and ought to be diminished. There is also another practice, if possible more fatal to good Architecture, to be seen in many of the buildings of this Metropolis. It is no uncommon thing to see one of the Fronts enriched with Columns, Pilasters, and other Architetcural Ornaments, whilst the Flanks are left plain, as if belonging to other buildings, or erected by different persons at different times.

This practice of sacrificing everything to one Front of a building is to be seen, not only in small houses where economy might in some degree apologize for the absurdity, but it is also apparent in large works of great expense, both Public and Private, even in works where to a great degree the National Taste is implicated. The front of Lansdowne House, in Berkeley Square, equal in extent to one entire side of that area, is a striking example of this inconsistency. Uxbridge House is another melancholy instance of this false taste, or false economy. These two drawings, of a more recent work, point out the glaring impropriety of this defect. The public attention, from the largeness of the building, being particularly called to the contemplation of this National Edifice. (*Plate* 28.)*

It is extremely painful to me to be obliged to refer to modern works, but if improper models, which become more dangerous from being constantly before us are suffered, from false delicacy, or other motives, to pass unnoticed, they become familiar, and the task I have undertaken would be not only neglected but the duty of the Professor, as pointed out by the Laws of the Institution, becomes a dead letter, for the Professor of Architecture is directed "to read annually Six Public Lectures, calculated to form the taste of the Students, to instruct them in the Laws and Principles of Composition, to point out to them the beauties or faults of celebrated productions, to fit them for an unprejudiced study of books on the Art, and for a critical examination of structures."

Returning now to the works of the Ancients, I shall proceed, according to my promise in a former Lecture, to speak of Obelisks.*

The origin of Obelisks was in Egypt; in that country they abound and are frequently of enormous dimensions. They were sometimes triangular, and at other times conical, but in general square at their bases and gradually diminishing upwards. Obelisks entered into the religious opinions of the Egyptians, and probably were first used in honour of the worship of the Sun, to whom they were consecrated. We are told by Diodorus Siculus that Sesostris caused two of them to be set up in the City of Heliopolis, to decorate the entrance to the Temple of the Sun. They were also applied, in a similar manner, to enrich the approach to many other Temples of the Egyptians. Obelisks, like Columns, were also considered as a species of historical monument. They were sometimes plain, like the stones set up in early times as Monuments, and sometimes decorated with hieroglyphics. It does not appear, however, that Obelisks were ever used in Egypt to embellish the Monuments of the dead. In Roman times, as we are told, two Obelisks of red granite, brought from Egypt, were set up before the entrance into the Mausoleum of Augustus in the Campus Martius. One of these Obelisks stands now in the front of the Church of Santa Maria Maggiore, and the other is on Monte Cavallo.

By others, the origin of Obelisks has been ascribed to those heaps of stones, which the Phoenicians and other early nations placed by the sides of their highways as symbols of their idols, as memorials of the dead, or as an expression of their gratitude for benefits conferred upon them by some particular god, or hero, in whose honour they were consequently erected.

From these circumstances the moderns, forgetting the origin of Obelisks, have frequently placed them indiscriminately as decorations to buildings of various descriptions, and for other purposes. These errors

* This is the passage to which exception was taken causing Sir John Soane to suspend his Lectures for two years. See Episode 12, page 148, in the "Portrait of Sir John Soane." S.M. Publication No. 13.—*Editor's Note.*

* See Lecture I, page 20.

show the propriety and necessity of our attending to the observation of Vitruvius, namely, that the architect, by close study and unwearied attention, should be learned in history, well informed of the primitive destination and origin of things, and on all occasions be able to trace every invention up to First Principles and Original Causes.

We have already seen the Column at different times twisted, rusticated, and tortured in various ways; nor has the Obelisk (beautiful in its simple form and situation) been treated with more attention; for at different periods and in different countries Obelisks have been placed on different substructions without any regard to their origin. Pliny speaks of an Obelisk elevated on balls, and at Constantinople there is such an example. We have no instance in Antiquity of an Obelisk placed on an upright Pedestal, nor any reason to suppose that manner existed, except from such a representation on a medal of unknown date, and from supposing that the Pedestal near the fallen Obelisk in the Campus Martius at Rome had been used in Egypt with the Obelisk itself; but this last circumstance is by no means proved. The moderns, however, from these precedents, have taken uncommon latitude and placed them not only on Pedestals of various descriptions in form and relative dimensions, but also on Pyramids and upon the back of animals. Notwithstanding the sanction of all these great examples, an Obelisk placed upon an upright Pedestal can never please the judicious eye. It gives a ricketty, weak, disgusting appearance to the whole Composition, and is directly contrary to every idea of propriety, and also to the great principles of Egyptian Architecture.

The Egyptians, to whom their origin is ascribed, placed them either on the ground, or raised upon one or more steps, or square plinths. This was consistent with the rest of their Architecture, which is constantly declining from the upright. Their apertures of every kind were diminished upwards, not like modern termini broader at top than at bottom. The walls of their buildings were likewise sloping, in order to give the greatest idea of duration. This form was one of the characteristic distinctions in all their architecture; it was a part of that general and universal system, which the Egyptians successfully copied from Nature.

The Fontana nella Piazza Navona is the work of a bold and daring mind. It is impossible not to be pleased with this mighty flight of genius. The placing of an immense Obelisk on an artificial rock, perforated with four large openings, was worthy of such an artist. It produces in the mind that sort of mixed emotion of pleasure and pain, similar to that which is felt on viewing the spire of St. Dunstan's-in-the-East, that celebrated piece of mechanism by Sir Christopher Wren.

From Obelisks we naturally pass to Pyramids,* which are generally supposed to be of Egyptian origin and to have been used for different purposes. Some have imagined that those at Cairo in particular were originally erected for astronomical purposes; but if the extreme difficulty of ascent, the great height of each stone with which these buildings are constructed, the enormous height of the whole mass and the smallness of the interior void are considered, it is impossible for any rational being to suppose such edifices to have been constructed for astronomical observations.

Others have supposed Pyramids to have been originally intended as depositories for the dead,** for it is well known that

* Pyramids have been considered among the most ancient buildings of Egypt chiefly because they are without hieroglyphics, which are by many considered as the first characters used by the Egyptians. For the origin of the Pyramids we are probably indebted to their religious veneration and respect for the dead, and to their desire of making the mansions thereof eternal. Indeed no figure, or mode of construction, could be better calculated to attain that object, and be at the same time so simple, so grand, and so awfully impressive. The base of the Pyramid is square, and fire, one of the emblems of Eternity, probably suggested the tapering form of its sides, consisting of large and rectangular courses of masonry disposed in level lines, forming a long but narrow walk by which, as by so many steps, the summit may be ascended—that summit not ending in a point, but forming a flat, square superficies.

[The base stones of the sloping casing have since been discovered, but there may have been earlier stepped Pyramids (or Mastabas) as at Sakkara.—*Editor's Note.*]

** *Note.*—This idea is at least further strengthened when we examine the Great Pyramid at Cairo, whose base is 700 feet square. We find in the interior only one small, solemn and solitary chamber in the very centre of the dark bosom of this gloomy recess, whose floor, sides, and roof are entirely of marble, the latter

the veneration and respect of the Egyptians were so great that it became a part of their religion to protect the remains of their dead from neglect and insult. We are also told that these people considered this world as a passage to some other existence, and therefore paid no regard to the stability of their dwellings, but were anxious to make the mansions of the dead eternal. With this idea they made their Pyramids generally square, although sometimes round, and generally diminishing to the top, leaving only a small flat space of a few feet to receive a statue of the deceased, or other decoration. From these circumstances, if the immense solidity of these structures is considered, it is impossible to imagine any Composition better calculated to brave the effects of Time, or one so simple, characteristic and awe-inspiring. We can have little or no doubt, therefore, that Pyramids were originally and exclusively intended as receptacles for the dead.

The Greeks were as anxious as the Egyptians to honour the dead. Cicero tells us that each side of the public road from Athens to the Piraeus—a distance of six miles—was crowded with tombs and sepulchral buildings in honour of deceased illustrious statesmen and heroes.* (*Plate* 6.)

The Romans were equally mindful to honour their dead. The roads leading to Rome, particularly that from Albano (a distance of about fifteen miles) were lined with magnificent monuments on each side thereof —nay, they are interspersed all over the Campagna of Rome. The immense and mighty ruins yet remaining justify the Poet's description, and make,

"Rome her own sad monument appears." **

The Pyramid of Caius Cestus at Rome is formed with stones of stupendous length, like so many beams laid flat, traversing the space and supporting the prodigious mass and weight of the mighty work above it. This chamber is said to be 34 feet in length, 17 feet in width, and 19½ feet high. In the interior of the Pyramid of "Cecilia Metella" at Rome, there is only one small chamber, and in the "Capo di Bove," near Rome, the space or void was only large enough to contain a single sarcophagus.

* Would to God this practice of placing tombs and sepulchral buildings on the sides of our public roads existed amongst us instead of our hiding them as we do in Westminster Abbey.

** Indeed, so great was the respect which the ancients had for the dead that Solon made a law to restrain the great expense of mausoleums. The Thebans had a law forbidding them to erect any dwelling without building at the same time a tomb for the dead. The spirit of Solon's law was to prevent the fields necessary for agriculture from being covered with tombs, which were sometimes so extensive not only by the site they occupied, but also by the woods planted about them, and thereby rendered sacred and consequently useless to the living. How wonderfully the towns of magnificent buildings in honour of the dead inspire the soul and prepare the mind for those grand effects produced by the steeples, towers, spires, and domes of great cities, when viewed at a distance.

very small, when compared with those at Cairo, and the sepulchral chamber in the Roman work is equally small in proportion to the extent of the entire edifice. This building was repaired some years past, and the workmen in digging found at two of the angles, pedestals, upon one of which was a foot of bronze. At the other angles they discovered two marble pillars thrown down, which were then repaired and replaced. These pillars do not appear to have had any immediate connection with the Pyramid itself.* They possibly owe their introduction in this place to the practice of some of the early nations before mentioned, who set up stones or columns to caution persons from approaching without due reverence the sepulchres of the dead.

In many ancient edifices consecrated to the dead, other forms besides the Pyramids are

* *Note.*—These columns have no apparent connection with the building. Admitted, but we must recollect that whether the ancients burned or interred the bodies of the dead, the remains were deposited in cinerary urns, or sarcophagi of various forms and dimensions occasionally representing temples, altars, and houses. These were occasionally placed in subterranean catacombs or hypoges, and heaps of small stones or columns were placed over them and groves of cypress planted about them in order that the mansions of the dead might be respected and that all persons might be warned against trespassing on the depositories of the dead which were considered as consecrated to the Gods. It was for this reason that not only the sepulchral stones but also the buildings in which they were enclosed frequently partook of the forms of Altars, and sometimes of Temples.

Obelisks were in like manner placed before the portals of Egyptian temples dedicated to the Sun, and in front of the Great Pyramid at Cairo there is a colossal Sphinx.

The strange ornaments carved on many of the ancient urns and sarcophagi will be noticed and explained in a subsequent lecture. (No. XI.)

Many of the ancient tombs are in the form of a house because they considered this kind of monument as a dwelling which was to have no end, and they therefore designated such tombs by the name of everlasting dwellings. In the pediments of some of these ancient tombs the disc is represented without rays, to express, as some imagine, this same idea.

used, and the remains of several are yet to be seen, both round and square, particularly in the neighbourhood of Rome. Those of a circular figure are supposed to have originated from the very ancient and general custom of raising mounds of earth, over the sepulchres of the dead. Groves of cypress were frequently planted to decorate and to render such places more sacred.

The Sepulchre of Plautus, on the road to Tivoli, and that of Cecilia Metella near Rome, are examples of circular figures, or towers.* In this latter we observe another instance of the desire of the Ancients to make the sepulchres of the dead of eternal durability. The space or void in this large building is merely sufficient to receive a single Sarcophagus, which contained the body of Cecilia. This building, like the Pyramids of Egypt, might have defied the power of Time, but no construction can resist the power of Barbarism.

Of the Mausoleum built by Augustus, in the Via Flaminia, for himself and family, there are yet some remains. It was divided into three storeys, each receding from the other very considerably as it rose, and on each set back, were planted groves of cypress and other trees, and the whole was terminated with a dome, on which was placed a colossal statue of Augustus.

The Mausoleum of Adrian, built during his lifetime, was the most magnificent sepulchral monument of all Antiquity. It was formed by an immense square basement, upon which was raised a peristyle of lofty Corinthian columns of the richest marble, and over each column a statue was placed; a dome, surrounded with statues, terminated this part of the building, whose extremity was finished with a pineapple of bronze. This edifice, worthy of a Roman Emperor, was by Constantine, to his eternal disgrace, plundered of its noble columns and many other parts to enrich his Basilica of St. Paul, which the wretched artists of his time could not otherwise construct.

The Mausoleum of Theodoric at Ravenna has been celebrated more for its external covering, which is of a single piece of stone, than for any particular beauty in its form.*

In all the remains of early Antiquity, the Pyramid was applied in its simple and natural state, but according to Pliny it was not always used by the Ancients as an entire work. He tells us that the Mausoleum, which Artemisia ** caused to be erected, was surrounded with a peristyle, over which was placed a Pyramid,*** consisting of twenty-four courses of stone equally receding towards the top, where part was left flat to receive a marble car with four horses.

Thus the Ancients, not regarding the origin, misapplied the Pyramid in some of their works, and set a bad example to the moderns, who, without considering whether a practice was sanctioned by first Principles, have merely availed themselves of Ancient errors.

The magnificent Mausoleum, erected a few years past in the Park of a Nobleman in Kent, is enriched with the modern Doric Order, and the whole work finished with a Pyramid—not from the taste of the Architect, but pursuant to the will of the noble personage to whose memory it was erected. So likewise, over the arched side entrance into the Park at Holkham, Pyramids are also introduced, without any better reason. The late Lord Orford (Horace Walpole) in some measure may be considered as the panegyrist of the first misapplication, although he does not suffer the other to pass without censure. (*Plate* 29.)

* *Note.*—Some have supposed that the conical Pyramid and the circular form of many of the ancient Mausolea arose from the custom of raising large mounds decorated with cypress over the dead. The bases of these mounds being circular and naturally diminishing upwards might reasonably have been supposed to suggest these ideas.
See Quatremere de Quincy. pp. 154, 256.
See Laugier, p. 21.
See Dutens Recherches, Vol. II, p. 126, 134, 138.

* *Note.*—I regret that my limits will not allow me to speak of the Mausolea of India, and the Pagodas of China, buildings of prodigious grandeur and expense.

** *Note.*—The first Mausoleum recorded in history was that erected by Artemisia, Queen of Caria, in honour of her beloved husband Mausolus—a structure which, from its prodigious extent and grandeur, gave the title of Mausoleum to all such buildings.

*** *Note.*—Supra pleron pyramis altitudine inferiorum aquavit viginti quatuor gradibus in meta cacumen se contra, etc.
See Pliny's Nat. Hist. lib. 3. e 5.
See Choiseul Voyage de la Grèce. p. 159.

Architecture could not fail of deriving the most solid and brilliant advantages from the respect paid by the Ancients to the dead. Their great public and private works were equally calculated to call forth the exertions of genius, and to give the artists of Antiquity the most decided superiority over those of our own day.

In these Discourses I have endeavoured to impress the minds of the students with the great advantages to be attained from a thorough knowledge of the origin and progressive improvement of the Ancient Buildings of India, Egypt, Greece and Italy. The knowledge of these works will be found of as much use, in forming the taste and directing the judgment of the Architect, as the works of Homer and Virgil are to the Poet, those of Demosthenes and Cicero to the Orator, or of Livy and Tacitus to the Historian.

Upon this view of the subject, it would be very desirable to enter more fully into the details of the buildings of the countries just spoken of, that from those inexhaustible sources we might collect the most useful knowledge of Architecture, both in theory and practice. In them we see an infinite variety and knowledge which calls forth Talent, quickens Invention, and thus enables the Artist to pursue his studies with every reasonable hope of success. Although this inquiry would be by far too extensive, I shall nevertheless add a few observations on some further examples of the mighty works of Antiquity, many of which are entirely perished, or have been destroyed while others remain merely as ruins.

The Forum of Trajan, one of the most beautiful and perfect works that Roman Antiquity could boast of, was equally well calculated for the accommodation of the Roman citizens and for the splendour and decoration of the City. This superb assemblage of buildings now presents a most melancholy proof of the instability of all sublunary things. Of its Basilica, Gymnasium, Library, Triumphal Arches, and Historical Columns, the isolated Column alone remains, and our regret is heightened by recollecting that it is not to Time that we owe the destruction of this wonderful work, but to Barbarism. Some of its finest sculpture was removed to enrich the Arch of Constantine, and to supply that which the wretched Artists of his day were unable to perform. In later times half the Amphitheatre of Vespasian, and the Septizonium of Septimius Severus, have been destroyed, the materials being applied in building the Farnese Palace and the Cancellaria. The drawings will give but faint ideas of the Colosseum, a magnificent and mighty structure in its perfect state, worthy of the majesty of Ancient Rome. What a splendid sight must it have been when eighty thousand spectators were seated within its walls; but how changed, how melancholy in its present wretched state, majestic though it be even in its ever venerable ruins.

Of the Basilica, built by Vitruvius at Fano,* there are no remains, but the description given of it in his book is of particular importance, as it points out the manner in which the Ancients placed columns upon columns. This was quite unlike the modern practice; and at the same time it corresponds most correctly with the imitative system of the Greeks, and with the example in the great Temple at Paestum. (*Plate* 4). The drawing by Palladio differs so materially from the other restoration that I must refer the studious artist to the description given by Vitruvius,** which he will find most worthy of serious consideration.

The Triumphal Arches are likewise entitled to our attention. They are not composed with the sublimity and purity of Ancient

* *Note.*—This Basilica seems to have been the chief work in which Vitruvius was engaged. He seems to have been persecuted by his contemporaries, and to have composed his treatise more from ingenious theory and philosophical research than from extensive practice.

[Perhaps it would be nearer the mark to suppose that Vitruvius was a somewhat disgruntled retired military engineer, with an interest in Architecture, which led him to compile an Encyclopedia with the aid of Greek books which we should be only too happy to have instead.—*Editor's Note.*]

***Note.*—It must be observed that the description of Vitruvius of the Ancient Basilicas, differs materially from his account of that which he built at Fano.

See Vitruv. Vol. I. p. 93. Newton's Vitruv.
See hints, c.p. q. Pliny. Vol. I, page 89.

Architecture; but there is a grandeur and fancy in them that cannot fail to make the study of them highly useful.

The execution of the Arch of Titus is of a superior kind, but its semi-columns are much inferior in general effect to the insulated Columns of the Arch of Constantine. The chief beauties of the Arch of Constantine are derived from the spoils of Trajan's Forum, which was plundered of its sculpture to enrich it. Nothing can mark the decline of art more conclusively than the very parts that were added by the artists of Constantine's time, to make out what the Forum of Trajan could not supply. Indeed, nothing can be more ridiculous than the blending of the works of ages so very different. It is the Daw dressed in the feathers of the Peacock.

The Arch of Septimius Severus perhaps shows a still greater degree of inferiority * in Art. The Columns on each side of the great Arch are without meaning in relation to the whole design, but Columns had been introduced in former Arches of Triumph, and therefore the Architect of those times thought he must continue the practice.

The ruins of the Villa of Hadrian at Tivoli, like those of the Imperial Palace in Rome, are of very considerable extent, although too much scattered to leave any possibility of restoration but from fancy and conjecture. Yet the studious artist will glean from those ruins very material information in his Art, both as to convenience and the application of beautiful forms. From these prodigious and extensive storehouses of Antiquity he will likewise increase his knowledge in decoration, as well as from the rich fragments of sculptured friezes and cornices, which are scattered over the whole of the ancient site of these immense buildings, all of which should be the meditation of the artist, by night and by day.

The Public Baths of the Emperors were prodigious masses of immense extent and surprising grandeur.* The great Hall in the Baths of Diocletian, now a church of the Carthusians, will give some idea of the extent and splendour of the entire building. (*Plate* 54.) I have not time to enter into a description of the names and uses of the several rooms. The great use to the artist of this and such Plans is to study the effect of Forms.

The Palace of Diocletian ** at Spalato was of immense extent and grandeur, occupying a space of between nine and ten acres, and contained apartments for the Emperor and for his officers and attendants. Halls and open spaces for exercise of different kinds, as well as two Temples of considerable dimensions, added to the magnificence of this mighty edifice, of which enough remains to determine with tolerable accuracy the forms and dimensions of the principal apartments. At the same time it makes a most excellent commentary on that part of Vitruvius which deals with domestic Architecture. (*Plate* 30.)

The plan of this building as well as those of the Baths of the Romans is full of beautiful forms ingeniously combined. The intricacy, elegance, variety, and taste in the disposition of the several parts can never be sufficiently appreciated. Too much study cannot be given to their plans. The artist will be amply compensated for all his time bestowed on them, but it is the plans only of which I am speaking, because these buildings were chiefly constructed in the decline of

* *Note.*—Septimius reigned about 195 A.D. The Arts are much indebted to Septimius Severus. He collected the portraits of great Princes and of other celebrated persons, and has been mentioned as establishing Schools of Art and for restoring the ancient buildings, but in the architecture of his Arch, and in that of the Goldsmiths, we see a great falling off indeed from the purity of former times.

* *Note.*—These mighty works were calculated not only for bathing, but for exercises of every kind. Here the learned found Libraries of Books of all descriptions, with spacious porticoes and magnificent halls for them to read their compositions in, as well as to dispute, harangue and instruct the Roman youth. The Baths of the Romans are peculiarly worthy of the most serious attention of the architect for the beautiful and varied forms they contain, and for the uncommon grand and magnificent style in which these towns of buildings are composed.

** *Note.*—Diocletian, the 39th Emperor of Rome, began his reign A.D. 284, and was associated with Maximian. They both resigned their power on the same day, and retired into private stations in 304. Diocletian died at Spalato, his favourite residence, where he spent the last nine years of his life, in 313 A.D.

Art. Although the munificence and example of Diocletian revived a love and taste for Architecture, superior to that of his own time, and formed artists capable of imitating with success the style and manner of a purer age, yet the decline of Art and its struggles to preserve any existence, are but too often visible in their works. From the time of Diocletian * the degradation of Art was most rapid, and in proportion as the other Arts declined they drew Architecture with them, and although many of the buildings erected after his time were large and expensive, yet they had little more to recommend them.

The period I have now reached is certainly not the most favourable for Architecture, and in the next Lecture I shall be compelled to follow our Art into the Barbarism of the Dark Ages. I hope and trust that Architecture will always keep pace with the Sister Arts, and maintain the rank assigned to it from the earliest periods of Antiquity, one to which it is pre-eminently entitled from its great and general utility, as well as from its mighty power to please and fascinate mankind. If this had not been the case, the great Princes and Statesmen of Antiquity would not have understood the principles of Architecture, and felt its beauties, nor would the ancient artists have found powerful Patrons in Pericles, Alexander, and the Caesars, as well as in Agrippa, Lucullus, and Pliny.

Architecture is a beaten road, but not a dull pursuit. I wish Discourses on the subject could be made amusing, and at the same time instructive, in order to attract the attention of those who should be the Patrons of Architecture. I did hope this end would have been attained by the interesting Discourses on this Art, delivered by my learned friend, Mr. Crowe, at the British Institution, and at Oxford. I regret, extremely, that they are not to be continued, for I must repeat that, unless those who build are acquainted with the beauties of the Art and are able to discriminate, they will be equally pleased with the new Orders shown in my last Discourse, as with the Order of the three Columns in the Campo Vaccino. Until the knowledge of this, I had almost said Divine,* Art is generally diffused, we must not be surprised at being obliged to seek for Patrons among the ephemeral fashionable upholsterers, popular auctioneers, and decorative landscape gardeners.

I feel, Sir, that from an enthusiastic zeal for my Art I have again trespassed, as in my last Lecture, too much on your patience. A large portion of the time, generally supposed to be allowed to Discourses of this kind, would have been barely sufficient to show and explain in the manner I could wish the necessary drawings for the elucidation of my subject. I trust, however, to be indulged with a few minutes to express my heartfelt satisfaction in observing the great and splendid efforts, so visible in the Architectural Designs for the Gold Medal of last year, in which the young artists have shown so much knowledge in the Arts of Design, and their zeal to continue Architecture in her pre-eminent situation. Each of the Designs possessed great and distinct merit, and some discovered such seeds of future improvement, that it was matter of regret that more Medals could not have been given consistently with our Laws. I regret to add that Painting and Sculpture, to whom the Arts are said to look exclusively for rank and independence, and the Exhibition of the Royal Academy for its support, produced only a solitary specimen in each of these departments of Art, and even these were considered undeserving of the Premium.**

* *Note.*—The Aqueducts should not pass without notice. It is said that they are proofs of the ignorance of the Ancients in Hydraulic Architecture. Be it so; and that they destroy and disfigure the face of the country and give facility to an enemy; but it must be admitted that they are grand features. Possibly they afforded employment to the soldiers in time of peace. (*Plates* 31-44.)

* *Note.*—And why not? God himself revealed to Solomon the idea of the Temple at Jerusalem; and the Goddess Diana held nocturnal meetings with the Architect of her Temple at Ephesus.

***Note.*—Pliny tells us that in times past Painting was reputed so noble and so excellent an Art, that Kings and Emperors thought so highly of it, and those only were thought ennobled and immortilized that Painters vouchsafed to commend by their works to posterity.

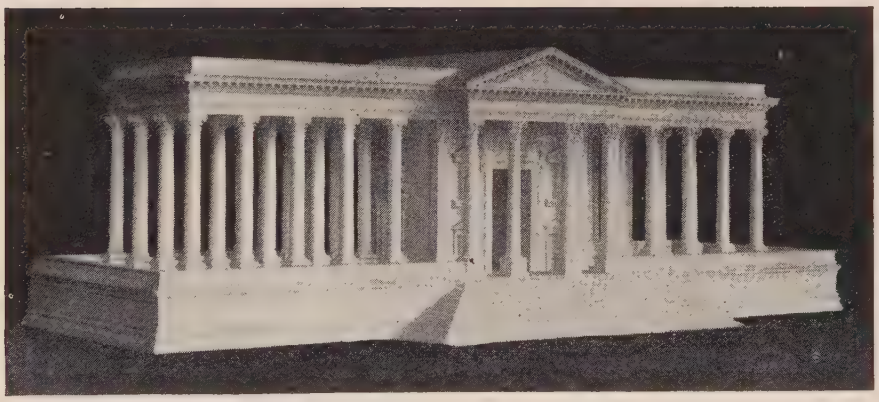
The Egyptians boast of Painting 6000 years before it

But, notwithstanding all these gigantic efforts, and however much they are entitled to praise, the Students in Architecture have still much to acquire. They must persevere in their studies with unremitting and indefatigable application, and add to their architectural stores the utmost knowledge they can possibly acquire of Painting and Sculpture. Without these advantages Architecture can never show the full extent of its mighty powers. Let the young Student therefore zealously endeavour to appreciate correctly the value of the Sister Arts, always remembering that it is through the tasteful and correct placing of Pictures and Statues, more than on the quantity of them, that the success of his exertions depends. The best works of Painting and Sculpture, if improperly placed, lose their effect, but if introduced into our buildings with correctness and taste, the Architecture of this country may be fairly expected to rival the most celebrated productions of Greece and Italy.

was known in Greece. As for the Greeks, some ascribe the invention of Painting to the Sicyonians, others to the Corinthians; but all agree that the first portraying was the drawing only of the shadows of a person to his just proportion and lineament. This first draught they afterwards laid with one colour, which they therefore called "Monocromaton." After this, the first who painted with colour was Cleophantus the Corinthian.

Pliny. L. 35. c. 3.

End of Lecture IV.



Portico of the Exchange, Palmyra

LECTURES ON ARCHITECTURE

By Sir John Soane, r.a.

LECTURE V.—DARK AGES AND REVIVAL.

Mr. President,—The rise, progress, and meridian splendour of Architecture, and likewise its decline until the time of Diocletian, having been traced in the preceding Discourses, I shall now briefly show its further declension, from the accession of Constantine, until all knowledge of this noble Art, as perfected by the Greeks and sometimes successfully imitated by the Romans, was completely obscured.

Constantine, having defeated his rival Maxentius, openly declared himself a proselyte to Christianity, and, having no weak feelings for established opinions, resolved to root out every vestige of those Pagan Principles upon which the mighty fabric of Roman greatness had been raised.

The death of Maxentius afforded Constantine full leisure for such a purpose, and his zeal manifested itself decidedly by a conversion of many of the former Temples of Paganism into places of devotion for the exercise of the new religion. This zeal of his afterwards shone with an increased lustre, evinced by the entire demolition of many of the most superb monuments of the heathen world. Even the magnificent Mausoleum of Hadrian was stripped of its beautiful columns to decorate the Church of Paolo fuori del Mura, which, from its resemblance in form and proportion to the Basilicas of the Ancients, was called the Basilica of St. Paul.

The Temple of Venus at Jerusalem was likewise destroyed, it being supposed that our Saviour had been buried under that very spot; and on that sacred ground, so far as expense could command, a magnificent Church was erected. The drawings of this edifice, copied from Le Brun, show the degraded state of the Arts at that period.

The Church of St. Sophia at Constantinople, erected by Justinian about the middle of the sixth century, is another striking example of the rapid decline of Architecture and the Arts connected therewith. The plan of this celebrated structure is, however, grandly conceived, although the execution and taste in the finishing is very defective, and little calculated to satisfy our expectations.

On the completion of this mighty edifice, executed to rival the great works of Antiquity, the Emperor, who had constantly superintended its progress, was so astonished at contemplating its magnitude and so dazzled with its splendid decorations, that he repeatedly exclaimed with ecstatic delight: "This surpasses the Temple of Solomon."

The Churches of St. Mark at Venice, of St. Anthony at Padua, and many others erected about the same time, in design and taste of execution are very like the Church of St. Sophia. These buildings, crowded with the most expensive decorations, like those erected subsequently for public and private uses in the principal cities of Italy, exhibit proofs of great wealth, but are melancholy examples of the decline of the Arts. Constantine and his immediate successors greatly accelerated this decline by destroying the ancient buildings. The sight of the works of Antiquity would have retarded, or perhaps entirely have prevented the total degradation of Architecture which followed. Taste in a great degree depends on the examples we have before us, however bad they may be, if sanctioned by success, they become objects of general imitation. Thus the Church of San Paolo, and the other large Basilicas of Constantine, are to be traced, though reduced in scale, in most of the subsequent works. These edifices, like those

of Constantine, being richly decorated with the plunder of Ancient buildings, assume an air of magnificence, and even of interest. If richness of materials and profusion of ornaments could compensate for these real beauties, which Classical forms and a due mixture of solids and voids alone can produce, these buildings would be entitled to general approbation. However essentially they deviate from the purity of Classical Architecture, those erected afterwards were still further removed from the taste, harmony, and proportion of Ancient works. Indeed, we must now take leave of the charms of Grecian Art, and proceed to what is called "Gothic Architecture."

Although treading on tender ground, yet having attentively and duly considered the subject, I shall endeavour to discharge my duty to the young students by delivering my opinions on this system of building freely and with as little as possible of the prejudices acquired by long habits and early attachment to Greek and Roman Architecture.

The term "Gothic Architecture" designates in this country and upon the Continent that manner of building which, as will be shown in a subsequent Lecture, succeeded and in some degree grew out of the Architecture of the Romans, this manner, after the subversion of the Roman Empire, became the general system of building throughout Europe.

From the neglect of the Sciences connected with Architecture, and from the degraded state of the Art, as already shown in the later works of the immediate descendants of the Greeks and Romans, it follows that the want of scientific knowledge would be still greater amongst other nations.

Confining ourselves to this Country, the early Saxon buildings were little more than clumsy imitations of Roman works, and at the time when the power of the Saxons gave way to the proud and expensive Normans, no material progress or improvement had been made in Architecture. The Normans retained in their buildings the Saxon manner in most of its essentials, such as the circular arch, round-headed windows and doors, and massive pillars, with a kind of regular base and capital. The shafts of these pillars were sometimes plain, sometimes enclustered with small semi-columns, and at other times adorned with spiral grooves winding round, or had a net and lozenge-work overspreading them. These features, with the thick walls and other characteristics of the early Saxon manner, were generally used until the middle of the twelfth century (1154).

The great characteristic differences between the Saxon and Norman Architecture may be traced in the quantity of the Ornaments and the increased magnitude of the buildings, particularly of the churches. The latter were often so large that their founders did little more than lay the foundations of the entire work and finish the east end, leaving the rest of the sculpture to be completed by their successors. Hence, it may be presumed, arose those discordant mixtures of different styles and ages so apparent in most of the great Norman buildings.

The prodigious clumsiness of Composition and gloominess of effect, so strongly marked in the Saxon and Norman edifices, cannot be attributed solely to a deficiency of mathematical and mechanical skill in the builders of those ages. There must have been other causes, probably very remote ones, for

> "The first Almighty cause
> Acts not by partial, but by genial laws."
> Pope, Essay I, line 145.

It has been already noticed that the Temples, erected by the Hindoos and Egyptians to their Divinities, as well as the dwellings for their families, were little more than copies of their former caverns and sombre retreats in the rocks and mountains. When the Greeks constructed buildings with stone and marble, they adhered as nearly as possible to a faithful imitation of their early works in timber. When Christianity first appeared, its votaries were compelled to perform their devotions in dark subterranean places, in the most retired and gloomy recesses. From these circumstances may we not conclude that as soon as free permission was allowed to the public exercise of the sacred functions of Christianity, the primitive

Christians, led by religious veneration and respect for early habits, endeavoured to display in their buildings above ground much of the heaviness, gloom, and intricacy of the subterranean sepulchres, and concealed places, wherein they had at first sheltered themselves from persecution and had exercised the rites and ceremonies of the Christian religion.

If the style in which so many Christian churches were built owes its origin to this sort of respect, to this kind of imitation, too much praise cannot be given to the artists of those days. Everything they aimed at was completely obtained. If in the blind bigotry of early times fear and terror were to be excited, while gloom and melancholy were mistaken for zeal and devotion, it does not lessen the merit of the builders of those early sacred edifices so admirably calculated are they to impress the beholder with awe and respect.

Such was the Architecture of this Country at the beginning of the thirteenth century, when the windows, heretofore narrow and low, began to be made wide and high and to consist of various parts, and different ramifications. The solids were made as small, as they had been hitherto excessive, and the round arch became pointed. The earlier arch, springing from an impost, or from the capital of a low truncated cone or pillar, entirely disappeared. The large truncated shaft itself was now formed either by a cluster of columns, or was divided into various parts by mouldings started vertically on the pavement, and from thence continued uninterruptedly into the vaulted roof of the nave.

Thus arose a new and singular system of building, on the origin of which many ingenious conjectures have been made, being by some attributed to the ancient and venerated custom of worshipping in groves.

This is a very natural suggestion, for it is easy to suppose that, after it became the custom to worship the Deity in covered buildings, pious men of deep reflexion and superior science, warmed by the contemplation and awe-inspiring effects produced by the varied play of lights, and the deep tones of the shadows in groves of trees, were tempted to realise those scenes of Nature in buildings of stone. If such was their object it must be admitted that they were as successful in this system as in the former.

To whatever causes the origin of this novel and imposing system is to be attributed, all agree that long avenues of trees, of different growths, disposed in parallel lines, intersected by others at right angles, whose branches meet, and, as it were, cross each other, do in fact always remind us of the side aisles, transepts, and other parts of a Gothic cathedral.

The introduction of this new system may be considered as an epocha, or revolution in Architecture. Whether it originated in, or was introduced into, this Country is a point I shall leave to the determination of others, presuming that it is not so probable that a new system of building should have originated with us as on the Continent, where the minds of men were more directed to the improvement of Architecture and of scientific construction, and a Society was actually formed for those purposes, long before this new system of building was known in England.

This Society, or band of associated brothers, kept to themselves all the laws and regulations of their proceedings. The members, being divided into bodies or classes, travelled through Europe, building churches, monasteries, and other edifices.

To keep their science to themselves they dwelt in huts near the buildings on which they were engaged, and for the same reason they conversed with each other chiefly by signs understood only by themselves. Hence mankind, not having free access to the real source from whence this Society derived its knowledge, knows so little with certainty of the origin of this peculiar style of building.

Salisbury Cathedral, erected by some of this fraternity, being entirely unmixed with any antecedent manner of building, has many advantages over the great structures of the Normans. As this work was begun and finished without any interruption, its Plan possesses that superior degree of Symmetry that is sought for in vain in buildings erected at different times and on the systems of different ages.

The comparative beauty of this mode was soon lost in the subsequent works by a lightness of construction bordering on temerity,* and in a blaze of Ornaments crowded together, the details of which, resting on what is absolutely arbitrary, occasioned all the irregular whimsicality of form and capricious disposition, so prevalent in the decorations of some of our great Gothic buildings.

Although in the structures raised after the Saxon and Norman manner, as well as in those which succeeded them, with the pointed arch, we do not trace the elegant fancy of Classical forms, nor the purity and chaste simplicity of Grecian intellect, yet the most enthusiastic admirers of Grecian and Roman Architecture must admit that many of our great Cathedrals have in combination, length and height, intricacy and solemnity, qualities which are the great sources of true Sublimity. Nor will it be denied that the early works of the Saxons and Normans are particularly calculated to increase that gloom and melancholy, which entered so powerfully into the devotion of bigotry of monkish times. The lighter and more elegant examples which followed also claim our attention and command no small portion of general approbation.

Is it possible for the most unobservant spectator, on entering Westminster Abbey, Salisbury Cathedral, and similar edifices to be deceived as to their destination, or can they fail to be impressed by their magnitude and solemn appearance? The amazing extent, astonishing height, and the interesting effects produced by the continuity of the vaulted roofing and other features of these buildings, create in every mind awe, and respect for those whose piety, genius, and talents raised such mighty structures. Structures wherein the eye, unable to take in at one view all the different parts, wanders with inexpressible delight through the lofty nave with its extensive side aisles, and the deep and unequal recesses of Choir, Sanctuary, and Lady chapel. If when satiated with this rich banquet, and recovered from the delirium produced by such a blaze of effect, the spectator places himself, as on a pivot, in the centre of the space where the nave intercepts the transept, he then perceives all the astonishing variety, harmony, and grandeur of the different masses, as well as the intricacy and movement of the whole assemblage, the play and contrast of light and shadow, assisted by the exclusion of all glaring lights. From all these circumstances combined together he feels the full power of the awful and pleasing gloom, which occasionally pervades every part of the sacred edifice. This sensation, thrilling through his whole frame, produces, as it were irresistibly, sentiments of the most elevated description, and make him

> "love the high embossed roof,
> With antic pillars, massy proof
> And storied windows, richly dight,
> Casting a dim religious light."

(Milton, "Il Penseroso," L.157. Johnson's Poets.)

(*Plate* 32.)

In none of the large splendid buildings raised by the zeal of our forefathers does the Gothic Architecture appear more captivating and perfect than in King's College, Cambridge. The vaulted roof of this chapel is admirably and geometrically constructed, affecting the imagination with pleasure and surprise. The decorations of the roof, the painted windows, the gloom and perspective, the harmony and general proportions of the whole interior contribute in placing this justly admired edifice amongst the most elegant and magnificent structures.

In doing justice to the merits of Gothic edifices, it should be remembered that those who erected them possessed many advantages over the artists of succeeding times. By the piety of the early ages of Christianity the wealth of the kingdom flowed most rapidly into the huge coffers of the Church. Power, of course, followed, and how could wealth,

*Note.—Procopius describing the Church of St. Sophia at Constantinople, speaks of the East front so contrived as to inspire both fear and admiration; for though it is perfectly well supported, yet it is suspended in such a manner as if it would tumble down the next moment. This conceit is a sort of false wit in Architecture which men were fond of in the infancy of Art. A turret jutting out from an angle in the uppermost storey of a Gothic tower is a witticism of this kind.

"Elements of Criticism," Vol. 2.

assisted by intellect (which the Church then nearly monopolized) be so well and so effectually used to increase that power as by the display of structures of the most expensive kind, calculated to dazzle the eyes and astonish the minds of the multitude. In those days it seems to have been very well understood that a building must be large to produce strong emotions, and grandeur, of all emotions, was that which produces the greatest influence on the mind.

On this mighty Principle our forefathers raised in every part of the Kingdom magnificent Cathedrals, splendid Churches, and monastic institutions of every description, constructed with costly and appropriate materials, and endowed with princely establishments. Some of these buildings, to the disgrace of succeeding ages, have entirely disappeared; others are in ruins, and the rest only partially upheld, and in many cases are disgraced with modern improvements.

Whilst such were the efforts of our forefathers, and such the advantages enjoyed by priestly architects of former times, the piety of succeeding ages has only erected one Cathedral, and, out of the fifty churches directed to be built by an Act of Queen Elizabeth, not more than ten or twelve have yet been erected. Instead of the others we have only paltry chapels, built on speculation, whose whitewashed walls of brick, and roofs of tiles and slates, convey no ideas that can interest the mind, nor are given any character appropriate to places of worship.

The Gothic Architecture, however happily adapted to religious purposes, is little calculated for the common habits of life. Its thick walls and small windows (admitting light as it were by stealth) are more suitable to Montezuma's house of affliction.* The features and general character of this mode of building are not expressive of cheerfulness or comfort. The fine dressed lawn, with its enlivening rivulet,

> "The bank whereon the wild thyme blows,
> Where oxlips and the nodding violet grows,"

require a different style of Architecture. In grand, romantic, mountainous parts of the country, enriched with torrents, lakes, and rivers, castellated Mansions,

> ". . . . with their ancient towers,
> And roofs embattled high,"

may bring back the pleasing recollections of ancient times, and make the spectator feel the pleasure of concordance, from the similarity of the emotions produced by the two objects. Even in such situations, thus enriched with a profuse variety of wild and grand objects, unless genius, taste, and feeling assist in designing edifices suitable to those situations ——unless the architect has an intimate acquaintance with the several modifications and changes in the Gothic Architecture of different ages, and thereby learns to avoid those incongruities, so frequent in modern Gothic buildings, his work will never interest the real admirers of the true, legitimate Gothic Architecture. The young architect should study that style with the most serious attention, not for its Taste, but for its Effect in mass and detail. (*Plate* 33.)

In our great religious edifices he will discover many rich materials to assist his imagination, and by close examination of the extraordinary mechanism of those stupendous piles, his knowledge of construction will be considerably increased. He will perceive in many of those buildings a boldness and lightness unknown, or at least unpractised, in any of the great works of Antiquity. (*Plates* 32-33-34-35.)

To judge of the merits of Gothic buildings, and to show how far the young artist will be benefitted by studying them, it will be necessary previously to inquire minutely into their Origin and Principles, as well as into the aims and objects which the persons who raised those edifices sought to achieve. Such researches must be particularly useful to the young students, and they will be made hereafter. I shall, however, purposely refrain from every attempt to ascertain the comparatively greater or lesser degree of intellect in

* *Note.*—In the City of Mexico there was a Palace termed "the House of Affliction," where Montezuma retired upon losing any of his friends, or upon any public calamity.
See "Elements of Criticism," Vol. II, p. 454.

Grecian or Gothic Architecture. Such discussions would not be productive of any practical good, nor compatible with the objects of these Lectures—nor in unison with my feelings, which I trust will ever lead me to respect the opinions of others, however different from my own. With these sentiments I shall only add that no system of Architecture can produce such forcible Effects on the intellectual mind as that which combines the fascinating powers of the sister Arts. As the Gothic Architecture in its general distribution leaves only very inconsiderable spaces, wherein paintings, sculptures and mosaics can be introduced, it must therefore be considered by all inferior to the Grecian.

With this important truth, the great artists of the fifteenth and sixteenth centuries seem to have been so fully impressed that no Gothic buildings were erected in those happy periods. Had those who succeeded them looked as far into the tendency of this species of building, as it affects the general interests of the higher departments of Art, they would have seen that notwithstanding the blaze of its Architectural beauties, this system was not calculated to call forth the energies of the Painter and Sculptor. Painting would have been confined to little more than Portraits, and Sculpture to busts and single statues. This opinion is strengthened, nay confirmed, by a circumstance within the recollection and knowledge of many living artists. I allude to the costly Abbey at Fonthill, which being partly finished and the Mansion House in consequence pulled down, the pictures by ancient and modern Masters were sold, being found too large, and unsuitable to the decoration of a modern Gothic Abbey.

It has been said that those powerful and imposing Effects, so visible in the exterior and interior of many of our Gothic Cathedrals, cannot be obtained by any other mode of building. I would ask those, who instance St. Paul's Cathedral in proof of this assertion, whether a large portion of the Solemnity and Character, so justly admired in Gothic works, was not produced by the studied exclusion of all glaring lights. In the Saxon and Norman buildings by the smallness of the apertures, and by the depth of light and shade, and in later works by the admission of stained glass. No person will deny these facts. Let us therefore suppose the windows of St. Paul's Cathedral glazed with scriptural subjects, represented in strong and glowing colours, and then let us ask if there is any want of Solemnity. Let the result of such an experiment be what it may, it could not be considered as decisive of the powers of Ancient Architecture, for St. Paul's, with all its merits, has too many of the defects of the Italian Churches to be compared with the sublime conceptions of Grecian Architecture. On this occasion it might fairly be asked what example have we in this country of sufficient magnitude and correctness of Composition to give an adequate idea of those great and solemn effects, produced by the ruins even of the sublime exertions of Roman and Grecian talent? Where shall we see buildings in this Country capable of giving a correct impression of the magnificence of the Pantheon, the simple grandeur of the Temples at Paestum, the sublime and imposing effect of the remains of the Temple of Minerva at Athens, the awful and terrific grandeur of those at Segesta, Selinunte, and Agrigentum, particularly the Temple of Jupiter, which in its perfect state must have been the admiration of every beholder? The columns of this immense building, none of which are now standing, exceeded forty feet in circumference, and each flute, almost two feet in its concavity, presents a cradle of repose to the traveller wearied with wanderings over the frightful ruins of that stupendous pile.

Will Porches, or Porticoes of two, four, or six clumsy Doric Columns of a few feet in height; will the Porticoes of our Churches, or those of any of the other buildings in this great Metropolis, give even a faint idea of the grandeur of the Portico of the Pantheon? Certainly not. (*Plates* 1-4-5-21-26-56-94 108 *and* 118.)

I have wandered so far out of the road, and digressed so much from Gothic Architecture, that what I propose to say further on that mode of building must be deferred to another opportunity. So irresistibly am I now within the magic circle of Grecian and Roman

Art that it is impossible for me to look back and retrace my steps. Let us therefore once more turn our eyes towards Italy, that Classical ground abounding with so many rich treasures of the Ancient Architecture. Its powers may be obscured by ignorance and prejudice, by fashion and caprice, by improper models and tasteless patrons, but cannot be annihilated. *Grecian Art may be concealed, as fire under embers, but be assured, my young friends, on the first favourable opportunity it will burst forth, like the glorious sun from behind clouds of darkness, and show itself in all the splendour of eternal Truth, and again become the admiration of mankind.**

Early in the fifteenth century, when ignorance and caprice seemed totally to have eradicated from men's minds every idea of the beauties of Ancient Architecture, when there were no fixed Principles in our Art recognised, when he that wished to surpass others had only to do something more preposterous and more whimsical than his predecessors and contemporaries, at this very period a fortunate circumstance directed the Artists of Italy to explore the remains of Ancient Taste and Science.

The Church of Sta. Maria del Fiore at Florence, when raised to the roof in 1262, had been left incomplete, in consequence of the death of Jacopo Lapi, the architect, and from the deplorable state of Art at that time remained in an unfinished state until the beginning of the fifteenth century, when men of skill were invited to Florence to point out the best method of completing the fabric. This fortunate circumstance brought into notice Philippo Brunelleschi, who paved the way for the restoration of the Ancient Architecture. Let me hail this propitious term with rapture and delight, after having so long wandered in the mazes and capricious uncertainties of degraded Art!

Brunelleschi, fired with the idea of covering the Church of Sta. Maria with an internal and external dome, leaving a free passage between them, hastened to Rome to prepare himself for the arduous undertaking, by studying in the ruins of ancient works the Principles on which they had been constructed by the mighty Masters of Antiquity.

Those prodigious ruins he examined with enthusiastic ardour, and not like many, who saw in them merely masses of marble, stone, and brick. This indefatigable artist measured the remains of Antiquity and studied every part of their construction. To Brunelleschi the smallest details were of importance, and having thus acquired that perfect knowledge of superior construction, which enabled him to complete his models for the great work in contemplation, he returned to Florence, and after experiencing many of those difficulties and mortifications, that men of science and modest worth have but too frequently had to encounter, he was entrusted with the entire management of the building. This work, to the discomfiture of his enemies, and to his own eternal glory, he had the happiness to complete.

The success and the fame that Brunelleschi acquired created a spirit of research, and revived a true relish for the works of the Ancients. To be distinguished as an architect it was now deemed necessary to measure and study assiduously the remains of Ancient magnificence.

Vitruvius, long neglected, was now diligently read; the torch of Truth and of Taste was lighted; a noble spirit of enthusiasm was created, and each artist endeavoured to rival, and if possible to excel, his neighbour. That thirst after knowledge, and that noble ardour for Architecture, thus revived, ultimately produced those great artists who are the boast of Italy and the pride of human nature.

Contemporary with Brunelleschi (1377-1444) came Leon Baptista Alberti (1404-1488), a noble Florentine who, like that great man, applied himself most diligently to the improvement of his mind, and became eminently distinguished as a Philosopher, a Poet, a Painter, a Sculptor, and an Architect. His works in Rome,

* The Editor has put this passage in Italics as a student of 16 in 1812 might look back on it as a prophesy. Before the age of 90 he would have passed through the following phases. Competition, Houses of Parliament, 1835; Pugin's Contrasts, 1836; St. George's Hall, 1839; Ruskin, 1851; Foreign Office Competition, 1859; Law Courts, 1866; War and Admiralty, 1886; for the last there were practically no Gothic designs.

Florence and Mantua, and the Church of S. Francisco at Rimini are proofs of his great talents as an architect, whilst his Treatise on Architecture will be a lasting monument of his intense application, zeal, and learning.

In the Fifteenth Century "Il sogno di Polifilo," a work of extraordinary merit, made its appearance. (1499.) The author of this ingenious and singular production, Francisco Colonna, by pointing out the defects of the fashionable artists of his time, and by showing the necessity of diligently studying the works of the Ancients, contributed most essentially to the advancement of the Arts. The judicious reflexions of Colonna cannot be too highly appreciated. He established most clearly that nothing can be allowed in good Architecture, for the introduction of which a good reason cannot be assigned, that it is not enough that a building has beautiful, well balanced, and duly enriched parts, but all the Ornaments that are introduced must, according to the learned Father, be necessary and suitable to the use and character of the edifice. Even the solidity of the work must be analagous to the Character and Destination of the fabric. Such, however, was the ignorance of the great mass of the soi-disant architects of that period, that Colonna was at first persecuted for the very opinions for which he ultimately received praise. (F.C. 1433-1527).

The foundation for the Revival of the Fine Arts being thus happily commenced, Julius the Second consolidated it. The glorious idea of rebuilding the Basilica of St. Peter could not fail in bringing together all the energies of the Italian Artists, and from this mighty assemblage of talent and high intellect the Architect of the intended edifice was selected in the person of Bramante Lazari. This was a most happy choice, for the powers of Bramante to conceive and execute great works, could only be equalled by the decided taste and exalted mind of his highly gifted Patron. (*St. Peter's, begun in* 1513.)

The impetuosity of the reigning Pontiff and the enthusiasm of the Architect kept pace. Plans were immediately made, and the stupendous work commenced without delay. After engaging successively, for a century and a half, the great Artists of Italy, and consuming the immense resources of the Holy See, this great work exhibited such mighty proofs of the highly daring and gigantic powers of Art that all mankind were lost in admiration. It is impossible to contemplate the unrivalled splendour of the stupendous structure, enriched with every decoration that costly materials and the combined powers of the Arts could produce, without feeling most exquisitely its great and unparalleled beauties. With all these happy combinations the Church of St. Peter has its defects. When one first enters this mighty fabric, it appears smaller than it really is. Many have considered this as a great defect, whilst others have looked upon it as a positive beauty produced by the harmony of its parts. This effect, from its very great importance to Art in general, and to the young Student in particular, will justify a very minute investigation in a subsequent Lecture, wherein I shall endeavour to account for it by exhibiting models of three different modes of treating the same area—viz., as at St. Peter's, as in the Temples of Antiquity, and as in the Gothic Cathedrals. (*Plates* 108-109).

Unfortunately the defects of St. Peter's Church are not confined to the Composition and arrangement of its parts. To the great regret of the lovers of Architecture the foundations of that prodigious pile, the largest edifice in Europe, were laid with such improper haste and the work carried on with such celerity that, even before the Dome was begun (which was intended to represent that of the Pantheon, suspended in the air), serious and alarming defects appeared, defects greater than the united powers of the most consummate constructive knowledge of subsequent times has been able effectually to remedy. The means applied to lessen these defects are very important to be known to the Student and will therefore be particularly noticed hereafter. (*Lecture XII.*)

From the failings of Bramante, let our young Architects learn to avoid all improper haste, to consider thoroughly and maturely digest every part of their designs. Likewise let them feel the great importance and

absolute necessity of attaining, like Brunelleschi, and the other great Restorers of Art, the most correct and extensive knowledge of Construction in all its details, as well as the qualities and powers of the materials to be employed. Without this knowledge the Architect is little more than a mere draughtsman, and his works frequently become disgraceful to himself, his Patron, and his Country.

The young Architect must not only be well acquainted with the works of the great Restorers of Architecture; he must follow them into their studies and examine most minutely the means whereby they attained the mighty pre-eminence that they have so long enjoyed.

To assist the young Architect in this pursuit, I shall now produce Drawings of some of the best works of those celebrated artists, who, fortunately for Art and for themselves, lived in a happy era when intellect was cultivated and protected by the great, whereby the talents, the energies, and the mighty powers of their minds, happily united, were called forth to adorn their Country.

The pomp and splendour of the Roman Catholic religion, and the riches of the Papal See, afforded during many ages the most glorious opportunities for the exercise of the talents of the Architect, the Painter, and the Sculptor. Although the magnificence and richness of Catholic Churches cannot be exceeded, yet it is painful to trace a tiresome and unaccountable monotony in the Architecture of so many of those religious structures, wherein we have eternally the Nave and side Aisles separated by clumsy piers, meagre pilasters, and large arches. These works are strong proofs of the power of example and show the necessity of having correct models for imitation.

In the great work of St. Peter's, Michael Angelo Buonarotti succeeded Bramante, and it is much to be regretted that the suggestions of the former were not more generally adopted. The daring mind of Michael Angelo is visible in many parts of the Palazzo Farnese, in the Mausoleum and Library of the Medici at Florence, the Sacristia of San Lorenzo, and many other important edifices.

Balthazar Peruzzi, succeeded Michael Angelo in the construction of the Church of St. Peter, and Bramante's Plan being then considered too large, Peruzzi produced another full of ingenious thinking, worthy of the attention of the Architect. In another of his works, the Palazzo Massimi, by making an unfavourable situation contribute to the beauty of the design, he has shown the power of his invention and the soundness of his judgment, whilst the different enrichments equally manifest his knowledge of the Antique, and the correctness of his taste.

The comprehensive mind of Raphael (who was likewise employed in the Basilica of St. Peter) was not confined to Painting only. Sculpture and Architecture successfully engaged his attention. The front of a building in the Longara is a simple and pleasing Composition, and the unbroken lines of the exteriors of the Palazzo Stoppani (formerly the Palazzo Cafarelli) are productive of that Continuity, so justly admired and so worthy of being contrasted with the broken lines, general in most of the works in Architecture of this Country.

Of the numerous works of that great Architect and Engineer, Michele san Michele, the contemporary and friend of Michael Angelo, little is known in this country. The chief productions of this eminent man are the Capella Pellegrini, the Church of La Madonna, the Palaces of the Cornari and Grimani, the Piazza Bra, and the Porta Palio, with the other Gateways into Verona. Although these works do not possess the purity of those of Palladio (*Plates* 74-76, *Lecture IX*), yet they exhibit such boldness of execution and originality of invention as has seldom been surpassed.

To Julio Romano, the pupil of Raphael, we owe the Villa Madama, whose general plan, with the beautifully composed Loggia, painted most enchantingly by himself and his scholars, together with the Grottoes, are in themselves sufficient to establish his pretensions to architectural fame.

The Villa Madama is particularly interesting by reason of its singularly beautiful situation and from the remains of the rural Theatre, wherein the Pastor Fido of Guarini

was first represented. The Palazzo del Te at Mantua was likewise designed by Julio Romano, and has great claims to the attention of the Architect. Of this building I made drawings some years since, which I regret are now lost, as there is no complete publication of it. I am indebted to the Professor of Painting (Mr. Fuseli) for the general plan of the building.

Sebastian Serlio, the pupil of Peruzzi, is a name well known. He was a zealous admirer of the Ancient Architecture, whose imposing remains he assiduously measured. His Treatise on the ruins of Roman grandeur is alone sufficient to recommend him to the notice of the young Student.

To the labours of Serlio, we may add those of Vignola, who by diligently studying the writings of Vitruvius, and by accurately and repeatedly measuring the remains of Ancient buildings, attained the highest honours that could be bestowed on an Architect. Incessant in his studies, his works were, of course, numerous. The unfinished Ducal Palace at Modena has some fine parts. The Church of Sant 'Agostino at Bologna, although little known, is grandly conceived. It has great originality and differs most happily from the general monotony of Italian Churches. The beautiful plans and exterior of the Papa Giulio at Rome and the Farnese Palace at Caprarola, can never be sufficiently admired or too much studied. Nor should the magnificent Church of the Jesuits in Rome and the little church of Sant' Andrea in the Via Flaminia pass unnoticed.

Vignola possessed great knowledge of the remains of Antiquity, but it is to Palladio that we must look for Classical Purity. This truly great Architect, struck, like Brunelleschi, with the majestic ruins of Ancient splendour, searched most assiduously into those remains in every place where Roman works existed. From a close acquaintance with them he infused into his own Compositions a large portion of their correctness and produced that noble Simplicity, that chaste style, so visible in most of his works. He has, however, been accused of following the Antique blindly, and of introducing indiscriminately into private dwellings whatever he considered beautiful in the works of the Ancients.

The Churches of San Giorgio and Il Redentore at Venice, with the Convent of La Carita, are most beautiful specimens of refined taste, while his noble design for the Rialto claims our admiration. The Basilica and Olympic Theatre at Vicenza are works of elegant fancy. The Villa Capra, and many other buildings after his designs, are justly celebrated for that noble Simplicity, which can only be acquired by close attention to the works of the Ancients. (*Plates* 74-76.)

Scamozzi likewise applied himself to the study of the Ancient buildings, and if his Compositions are inferior to those of Palladio, they are nevertheless often well conceived, and truly majestic. His idea for the restoration of Pliny's Villa at Laurentinium is not without merit, and his treatise on Architecture, although unfinished and full of promises, far beyond what he has performed, has very great merit, and should be attentively read.

Of the other great Artists of this happy age I shall only mention Bernini and Salvi. Bernini had in early life imbibed this noble and useful maxim "Man never attains perfection, and might, by study, always do better." The works of Bernini are very numerous but not all equally entitled to praise and imitation. The Baldaquin of St. Peter's, with its twisted columns, formed of the metal ornaments plundered from the Pantheon, will be a lasting reproach to his memory.

The noble Colonnades that form the approach to St. Peter's is a work that is well known and justly appreciated. Some have considered the Order, which is there used, as not being sufficiently rich; but the astonishing effect of light and shadow on such an immense number of large masses, changing in effect every moment, scarcely leaves coldness itself power to censure the work. The Church at La Ricci is another justly celebrated work of Bernini, with which the young artist should be acquainted.

Nicolo Salvi designed and executed many considerable works. The Church of the Dominicians at Viterbo and the Fontana di Trevi in Rome are entitled to the attention of the young Architect.

The works of Salvi have many beauties,

accompanied by some striking faults. The Fontana di Trevi is grandly conceived, and the general effect truly interesting. The columns and pilasters of dissimilar heights, the semi-pilasters attached to columns, although contrary to every principle of good Architecture, create great variety and interest tending to produce picturesque effects particularly fascinating, in the eyes of young artists. In no building are pleasing effects produced from false Principles more conspicuous than in the Fontana di Trevi. No building affords stronger proofs of the fallacy of that dangerous Principle in Architecture, namely, that the beauty of a design consists chiefly in its picturesque appearance. (*Plate* 36.)

I wish to call the attention of the Student to the elevation of the Fontana di Trevi, by a drawing, which I regret is not in Perspective. This drawing was made by the late Sir William Chambers whilst pursuing his studies in Italy. There is a chasteness in the manner with an effect produced without much labour, which makes this drawing preferable to the present more elaborate mode of treating Architectural Designs. A superior manner of Drawing is absolutely necessary, indeed, it is impossible not to admire the beauties, and almost magical effects, in the architectural drawings of a Clerisseau, a Gandy, or a Turner. Few Architects, however, can hope to reach the excellency of those Artists, without devoting to Drawing too much of that time, which they ought to employ in the attainment of the higher and more essential qualifications of an Architect. (*Plate* 37.)

Sir William Chambers, however, excelled not only in drawing. His designs for the Church for the Parish of St. Marylebone, and the Mausoleum designed for the late Prince of Wales, show that he possessed no small portion of architectural knowledge. If the magnificent assemblage of buildings forming Somerset Place are not composed in all the purity of Ancient Architecture, and likewise shut out the view of the River Thames from the great Quadrangle (a circumstance that must always be deeply regretted) yet the beauties of many of the great features of that noble pile are so strongly marked that the fame of Sir William Chambers will live as long as the work remains. Nor is this the only monument he has left. His Treatise on Civil Architecture, the result of close application, deep, erudite, thinking, and zeal for our noble Art will always be read with pleasure and profit. (*Plates* 46-56-57-72-84-90-91 *and* 92.)

These observations are perhaps somewhat misplaced, but having mentioned the name of Sir William Chambers, I could not resist the temptation of paying my humble tribute of respect to the memory, talents, and integrity of an Architect, who never omitted any opportunity of aggrandizing the Art.

Whilst in Italy the Ancient Architecture was now revived and duly appreciated, in England we had only some faint glimmerings of Roman Architecture, as in the Duke of Somerset's Palace in the Strand, and in some other edifices erected in the time of King Henry the Eighth, and in succeeding reigns. Of the latter I shall hereafter give specimens, from Monuments and Buildings of those periods now remaining, and likewise from original designs in my possession, made by John Thorpe, an Architect who lived in the time of Queen Elizabeth.

In these works Roman and Gothic Architectures are so fantastically blended, in consequence of the introduction of Italian Artists into this country, that we see in them the most extraordinary absurdities. In the exteriors of some of them Columns alternating in black and white are introduced; in others, the Five Orders of Architecture are jumbled together, while the flat surfaces of the walls are crowded with every species of grotesque ornament. Indeed, so completely was the veil of ignorance, attended by clouds of darkness, spread over the land that this licentious, whimsical and capricious mode continued unrestrained by scientific Laws and unfettered by Reason until the time of Inigo Jones. He, having formed his taste on the works of Palladio and those glorious monuments of Antiquity, which had been raised on the eternal basis of Reason and Philosophy, infused into his own designs lightness with solidity, elegant decoration with classical simplicity, and majesty and dignity with correct taste.

To show the different manners of this great Architect, who in his works treated Architecture sometimes as a useful and sometimes as a pleasing Art, I shall select from his numerous buildings, Castle Ashby in Northamptonshire, and the Queen's House in the Park at Greenwich, regretting that I have no drawing of Coleshill in Berkshire, which, to the honour of its successive owners, remains exactly in the same state in which it was left by Inigo Jones,* whilst the alterations made in the Banqueting House since his time have given the coup-de-grâce to one of the finest rooms in Europe.

To this celebrated Architect we owe Lindsey House in Lincoln's Inn Fields (*Plate* 47), the Water Gate at York Stairs, the beautifully-proportioned Arcades of Covent Garden Piazza, and the Church of St. Paul, Covent Garden, (*Plates* 13-14), which for simplicity and correctness of design may vie with the great works of Antiquity. Part of the front next the river of Somerset House, since pulled down, was likewise designed by Inigo Jones. (*Plate* 64.) His great work was the intended Palace at Whitehall, of which the Banqueting House forms only a very small part. (*Plate* 62.) The Persian Court in this design is a noble thought, that would have done honour to a Dinocrates, or a Hermogenes.

Had the entire design of the Artist been completed, it would have established in this country the mighty powers of Ancient Architecture and fixed its Principles and Taste on such a basis that innovation and fashion, those powerful monsters, would not have dared to have shown themselves. Notwithstanding the peculiarly promising period when this design was begun, Civil War, that scourge of the human race, finally prevented the execution of this grandly conceived Composition.

The entrance into the Physic Garden at Oxford, and Shaftesbury House, Aldersgate Street, have been erroneously ascribed to Inigo Jones. These buildings are of his School, and the latter, even in its dilapidated state, creates an interest in the mind of the Artist, very unlike the sensations produced by the modern works that surround it. (*Plates* 61-68-73 *also by Inigo Jones.*)

The taste for good Architecture, thus happily introduced, was followed by Sir Christopher Wren, whose talents were called into action by the Great Fire in London. The Monument, St. Dunstan's-in-the-East, and Bow Steeple are amongst his successful efforts. The interior of the Church of St. Stephen, Walbrook, with all its beauties, is licentious in Composition and deficient in apparent solidity of Construction, but St. Paul's Cathedral, with all its defects, is sufficient to eternalize the name of this most justly celebrated Architect. (*Plates* 94 also 86-87.)

Contemporary with Sir Christopher Wren was Sir John Vanbrugh, whose numerous and extensive works show the versatility of his talents; and, if he wanted the grace and elegance of Palladio, he possessed in an eminent degree the power of invention. (*Plates* 78-91.)

His works are full of character, and his outlines rich and varied; and although few of his Compositions show any great knowledge of classical correctness, yet the Mausoleum in the Park at Castle Howard executed by his pupil,* and the Temple of Concord and Victory at Stowe are proofs that he occasionally felt the force of the Simplicity of the Ancients, whilst his House at Whitehall (*Plate* 102), in spite of the alterations and additions it has undergone, shows that he had the power of making small things interesting. His great work is Blenheim. The style of this building is grand and majestically imposing, the whole Composition analogous to the warlike genius of this mighty hero for whom it was erected. The great extent of this noble structure, the picturesque effect of its various parts, the infinite and pleasing variety, the breaks and contrasts in the different heights and masses, produce the most exquisite sensations in the scientific beholder, whether the view be distant, intermediate, or near.

The delightful scenery on first entering this

* Soane was, of course, not aware of the changes made by William Kent, nor of the fact that Pratt, Inigo Jones's pupil, executed the work.—*Editor's Note.*

* Nicholas Hawksmoor, Wren's assistant for some twenty years, may not unfairly be regarded as a pupil of Vanburgh as well.—*Editor's Note.*

noble Park, the immense sheet of water, which so entrancingly enriches the landscape, the princely Palace, the great Column, and that magnificent feature, the Bridge, taken altogether produce the very climax of excellence. (*Plate* 78.)

It was once, sarcastically, said that the Bridge at Blenheim designated the ambitious mind of the Duke of Marlborough, whilst the rivulet beneath (alluding to what it was originally) indicated the smallness of his liberality. Such were the observations of a peevish satirist—how unlike the noble-minded Bolingbroke who, being asked his opinion of the Duke's failings, replied, with all the feelings of a great mind that "he was so fully impressed with the good qualities of the Hero of Blenheim that he could not recollect that he had any faults."

It is impossible to contemplate the works of Sir John Vanbrugh without feeling those emotions which the happy efforts of Genius alone can produce. In his bold flights of irregular fancy, his powerful mind rises superior to common conceptions, and entitles him to the high distinctive appellation of the Shakespeare of Architects. To try the works of such an artist by the strict rules of Palladian tameness would be like judging the merits and mighty darings of the immortal Bard by the frigid rules of Aristotle.

At the same time with Sir John Vanbrugh lived that great luminary of Architecture, the Earl of Burlington, whose exquisite Taste for the Arts is most admirably evinced in his elegant Villa at Chiswick, which Lord Hervy wittily said was "too small for any man to inhabit, and too large to hang to his watch." Every part of this beautiful Composition is classically correct; rules and symmetry are closely attended to. The taste of the Ornaments is exquisite, although many of them, copied from the soffits of arches, the ceilings of colonnades, and other parts of Ancient Temples, are somewhat misapplied.

From the introduction of good taste into this country by Inigo Jones, to the time of Lord Burlington and his immediate successors, Architecture made rapid and progressive improvement; but since those happy periods many of the most classical buildings and princely mansions of our ancient nobility have been altered, and others have been entirely demolished. This is due to an economising system, which has produced a rage for speculative building, that fatally tends to root out every vestige of good Taste and sound Construction.

When the Poet, alluding to the magnificent residence of the Duke of Chandos at Canons, tells us that

> "Another age shall see the golden ear
> Imbrown the slope and nod on the parterre,"

the Bard seems to have been prophetic for the Poet's vision has been realised and that noble pile has been destroyed. The superb mansion of Sir Gregory Page, at Blackheath, has likewise been pulled down. Gunnersbury House, that celebrated Palladian work, with its spacious and ample hall, its extensive and noble apartments, is no more; and, what is worse, these fatal examples have led to the demolition of many others.

Alas! the Metropolis also has felt the baneful effects of this system of demolition and fashionable improvement. Somerset House, Ely House, Leicester House, Bedford House, Foley House, and many others are no longer in existence. Some of those magnificent mansions until a few years past boasted of their grand and imposing courts, spacious apartments and extensive gardens. All are now swept away, and their sites, with the exception of Somerset House, are occupied by miserable, monotonous, paltry, plastered dwellings. In a few generations, nay, probably in a few years, the very existence of these princely Palaces with their noble appurtenances will be forgotten. Even Ely House, with its avenue of lofty trees and its extensive gardens, might at this time have been unknown had not Shakespeare preserved at least the recollection of the Garden by making the Duke of Gloucester remind the Bishop of Ely of the excellence of the fruit it produced.

> "My Lord of Ely, when I was last in Holbourne,
> I saw good strawberries in your Garden there."

The economising system of our days, so destructive, so fatal to every principle of good Architecture, has, I fear, doomed

Burlington House likewise to destruction. Will not the grandeur of the superb portal, the elegance of the Classical Colonnades, and the magnificence of the princely mansion prevent the ruin of this noble residence.* At least, let us hope those beautiful Colonnades vent the ruin of this noble residence.* (*Plates* 38-39.) At least, let us hope those beautiful Colonnades will be spared of whose effect the late Lord Orford thus expressed himself: "Having passed the evening at a ball, at daybreak, looking out of a window to see the sun rise, I was surprised with the vision of the Colonnades that fronted me: it seemed one of those edifices in fairy tales, that are raised by genii in a night's time."

The drawing of this superb pile, now exhibited (*Plates* 38-39) only faintly and imperfectly show the beauties of the entire composition. Endless variety in the play of light and shadow, the masterly effects, and powerful mind are visible in every part of these noble Colonnades. So extensive and so varied is the scenery, so great is variety of the different masses, of which it is composed, that it would require language that I cannot command and a much greater number of views than I am provided with, to do justice to the beauties of this noble specimen of Palladian Architecture.

Amongst the drawings, with which my predecessor enriched his Lectures, was a Design for a magnificent Bridge over the Thames, near Somerset House. Recollecting the powerful impression the sight of that beautiful work produced on myself and on many of the young Artists of those days, I am happy in this opportunity of exhibiting a copy of the Drawing of Mr. Sandby's Bridge this evening. If it gives my young friends in this Institution as much satisfaction as it did the Students in my early days, I shall think myself amply compensated. (*Plates* 40-41.)

On this occasion I cannot avoid regretting that the time usually taken up by the Lecture will only admit of a cursory display of the Drawings, and of course they can only leave a very faint impression on the minds of the Students. I trust, however, that in the next Season this deficiency will be corrected by the drawings for each Lecture being left in the Academy for the inspection of the Students.

In all Architectural Compositions the solids and voids should be in due Proportion to each other, and to preserve proper balance of parts is perhaps more difficult in a design for a Bridge than in most other subjects. In this Composition Mr. Sandby has been particularly successful. The principal masses are disposed with peculiar judgment and propriety, not over the Arches, but at the extremities on the solid earth, in form and quantity harmonizing and contrasting most admirably with the lighter parts over the centre arch. These parts, although of sufficient extent to assimilate with the large masses at the extremities, are so judiciously conceived and broken, and the whole effect is so light, that the mind is pleased, and accepts the practicability of the design. The parts likewise, which connect the centre with the two ends, form a pleasing gradation, seeming to grow the one out of the other, thereby producing that Continuity, that Harmony, so essentially requisite in Architectural Compositions.

Thus much in justice to the memory of my esteemed friend. However grandly conceived this design may be, no powers of invention, no elegance of Architectural Composition, could possibly atone for the destructive effect on beauties of Nature and of Art, occasioned by the erection of such a bridge, in the situation intended for the realisation of this noble design. A bridge thus placed would destroy the present enchanting effect of that beautiful reach of the River which, viewed from the Temple Gardens, presents a scene of the most fascinating and magnificent kind. The fanciful playfulness and elegant outline of Blackfriars Bridge, the solidity and simplicity of Westminster Bridge, the noble terrace and superb buildings of Somerset Place and the Adelphi—all these objects, on the banks of one of the finest rivers in the world, all seen at one view, produce such an uncommonly extensive assemblage of grand, interesting and pleasing effects as sets all

* Answered in the negative. All was swept away, the colonnades dumped in Battersea Park were never re-erected.—*Editor's Note.*

description at defiance and surpasses even the powers of imagination itself.*

If instead of the general disposition as in Mr. Sandby's design the primary or principal masses had been placed over the arches, without affecting the practicability of the design the effect would have been less satisfactory, as will be seen in the next drawing. (Sir John Soane's Triumphal Bridge, the R.A. Gold Medal Design of 1776.) (*Plate* 114.)

This Composition, like the preceding, consists of seven arches, and the sub-divisions are not unlike those in the former design. Here the similarity ceases. In this design the large masses are placed, not like Mr. Sandby's, on the solid earth, but over each of the extreme arches, and the centre, still heavier in appearance, staggers the mind as to its practicability. These three large features, not assimilating with each other, nor sufficiently connected with the intermediate parts, look more like so many distinct masses than one great building. The whole design thus becomes deficient in the Continuity and Harmony so happily preserved by Mr. Sandby.

These observations are not to the credit of my own design, but the Professor of Architecture is called upon to communicate such observations as are likely to tend to the improvement of the Students. On this principle these designs are here introduced and their merits and demerits pointed out. The young Student cannot be too often cautioned against being too easily satisfied with his first essays, although they may have been sanctioned not only with private esteem but likewise with a large portion of public approbation.*

A few words more on this subject may be useful. When a Student gains the Prize Medal of the Royal Academy (an honour some years since conferred on this design) a value is stamped upon his work, not only in the estimation of others but in his own mind. It is therefore of great importance that the Students in Painting, Sculpture, and Architecture should be well informed of the beauties and defects of the designs of the successful candidates. For this purpose it will not be presuming perhaps to recommend to the Members of this Institution that on, or before, the day appointed for the Academicians to examine the merits of the different works offered for the Premiums a Public Discourse be given by the different Professors, pointing out the beauties and defects of each Composition, likewise showing wherein it might be improved. Such observations would be particularly useful to the Students.

These remarks will not, I trust, give offence, for where is the Architect who will presume he is as competent a judge of the merits of Historical Pictures, or Academical Figures, as a Painter; or what Painter or Sculptor is equally capable with the Architect of pointing out the beauties and defects of Architectural Compositions?

One word more. Allow me, Sir, to observe that the Academies on the Continent retain the designs of the successful candidates, and thereby the honours they bestow on the young Artists are considerably increased. On this principle it appears to me very desirable that the designs for which the Medals are given in this Institution should be deposited for a limited time in the Royal Academy, and the whole or a selection of them occasionally exposed to the Students and the Public. Such Exhibitions would show the progress of Art, and point out (reference being made to the subsequent works of the successful competitors) those who have realised the expectations of the Academy in the promise indicated in their first Designs, and thereby render a most essential benefit and serious advantage to the young Students.*

I should wish to enlarge on this subject, but I have already trespassed too much on your time, and shall therefore conclude by offering my best thanks for the indulgent hearing that I have received.

* Written, of course, before the erection of Charing Cross bridge, a contingency that Sir John Soane could never have imagined as possible.
It is also obvious that it was written before the erection of Waterloo bridge.—*Editor's Note.*

*Other versions of the Bridge design are given in the works of Sir John Soane. S.M. Publication No. 8. —*Editor's Note.*

*It will be seen how Soane remained "very young." Age and infirmity failed to quench the fire of his imaginative and enthusiastic mind.—*Editor's Note.*

END OF LECTURE V.

LECTURES ON ARCHITECTURE

By Sir John Soane, r.a.

LECTURE VI.—ARCHES, DOMES, STAIRCASES, ETC.

Mr. President,—In the preceding Discourses I pointed out the great Principles, and have also shown the feeble beginnings, the meridian splendour, and the decline of our noble Art. The subject has also been continued through the Dark Ages until the Revival of the Ancient Architecture in the Fifteenth Century. Progressive improvement in Architecture has likewise been noticed through the work of the great Masters of the Fifteenth and Sixteenth Centuries. I have also dealt with the introduction of this manner into England, and its progress from that time until the close of the Eighteenth Century, where, I shall for the present leave the Architecture of this Country. I now proceed to an enquiry into the origin and application of Arches, an invention which confers almost as much honour on the human intellect as the discovery of the laws of gravitation, of the circulation of the blood, or the successful labours of Galileo. The transition by the means of Arches from the horizontal Construction, used by the Hindûs and Egyptians and likewise by the Greeks in their early Works, produced no inconsiderable change in the practice of Architecture.

We must distinguish between Arches formed by excavation and those subsequently constructed. In the very early works of the Ancients, excavated Arches were not uncommon, excavation being the most simple and natural resource in ages devoid of science. The four Indian Kings, on viewing St. Paul's Cathedral, being unable to comprehend its Construction, one of them (according to Mr. Addison) described this great effort of human Talent as being probably at first "a huge mishapen rock, which the Natives bored, and hollowed out with incredible pains and industry 'til they had wrought it into all those beautiful vaults and caverns into which it is divided at this day."

Many ingenious enquiries and learned disquisitions have been made respecting the origin of Arches. Drawings from Works of very remote Antiquity faintly show the progressive advance towards the regular Arch, but do not materially assist in ascertaining either where, or by what Nation, the Arch was first used constructively.

Arches, by many enlightened persons are supposed to have been constructed in the most early Ages. The Bridge over the Euphrates is mentioned as evidence of their having been known to the Babylonians, and the entrance into the Chamber of the great Pyramid at Cairo is likewise advanced in proof of the same knowledge being possessed by the Egyptians. It is worthy of notice, that Homer, who so frequently refers to the customs of Egypt, often alludes to Arches and Vaulted roofs.

Aristotle has also been quoted to establish the early acquaintance of the Ancients with this method of Construction; but I cannot consider these authorities, however respectable, nor the remains of the early Works of the Greeks, nor the entrance into the City of Paestum, nor the Cloaca Maxima of the Romans, as sufficient proofs of the early existence of Arches amongst those Nations. The masonry of the embôchure of the Cloaca Maxima, on which great stress has been laid, is evidently of very late date, compared with the other parts of that prodigious undertaking.

On the subject of Arches, Vitruvius leaves us very much in the dark, which tends to prove their being unknown in his time, or at least that they were not in common use in Greece, the source of his information. From all that we know on the subject with certainty, it is most probable that Arches were

not in general use even by the Romans anterior to the age of Augustus.

Arches form a very important part of Architectural Construction and naturally lead me to speak of Bridges, which combine the knowledge of the Architect and Engineer. In the execution of the various tasks imposed on the Architect, the building of Bridges is one which requires the most serious application, sound judgment, extensive knowledge, and deep reflection.

Bridges unite with the natural and created scenery of situations most admirably. Rude stepping stones, a few planks, or even a single tree, thrown accidently across a stream or rivulet, have peculiar beauties, but a magnificent Bridge, over a wide and rapid river, forming a secure communication from shore to shore, is a grand and imposing object. Perhaps none of the superb buildings of Antiquity claim our admiration more than Bridges.

The Bridges of the Chinese are represented as of such marvellous dimensions as far to surpass all others in magnitude and extent. The Bridge at Ispahan, we are told, is three hundred geometrical paces in length, and twenty in width, with a passage in the middle sufficiently wide for several carriages to pass abreast, and a vaulted Gallery on each side for persons on foot. The Bridge at Loyang is still more extraordinary than the last, while that at Kingtung far exceeds them both in its romantic situation. This Bridge, by means of a number of chains suspended from the opposite Mountain and covered with planks, forms a communication across a valley of frightful depth.

The Chinese boast likewise of other Bridges more than four miles in length; these, as well as the Bridges of India, and those made of Boats in Italy, are curious and interesting, and some of them will be later more particularly noticed. (*Lecture XII, page* 186.)

Of the Bridges of the Romans we have many, and also some considerable vestiges. (*Plates* 42-43.) Of that over the Nar, at Narni, altho' enough yet remains to impress us with its prodigious dimensions and magnificence, yet in importance it is much inferior to Trajan's Bridge over the Danube, which was more than a mile in length, and consisted of Twenty Arches, one hundred and sixty feet in span, and one hundred and fifty feet high. (*Plate* 43.) When we consider the prodigious dimensions of this stupendous work, and the rapidity and depth of the River over which it is raised it is evident that it required a mind of uncommon vigour to meet the difficulties of such an undertaking with any rational expectation of success. This Bridge, especially raised to facilitate the passage of the Roman Armies into the countries of the Barbarians, was destroyed by the immediate successor of Trajan to prevent those very Barbarians from making inroads into the heart of the Roman Empire.

The Bridge at Rimini is nearly in the same state as in the time of Augustus, and of the Senatorial Bridge at Rome, over which the conquerors of the World passed in all the pomp of proud triumph, attended by captive Monarchs loaded with chains, the remains are yet considerable, there are as well many other bridges over the Tyber, and in different parts of the Roman Empire, all of which are entitled to the most serious investigation by the Student.

But whilst we give due praise to the Bridges of the Ancients let us do justice to those of later times. The Bridge over the Allier at Brioude in Auvergne is perhaps the largest Arch now existing, the chord line being about one hundred and eight feet. (*Plate* 43.) To this great work may be contrasted the elegant Bridge of La Trinità at Florence, composed of three Arches, nearly similar, and formed by portions of the cycloid.

The noble Bridges over the Thames at Blackfrairs and Westminster, and the Pont de Neuilly, near Paris, are masterpieces of different kinds and of original imagination.

Blackfriars Bridge will, I trust, long remain a monument of the Artist-like mind of the Architect.* Its lightness, fanciful

* Robert Mylne (1734-1811). Friend and contemporary of Robert Adam. Both of these bridges over the Thames have been replaced in steel.—*Editor's Note.*

originality and picturesque appearance will always command the approbation of those who consider Architecture as a pleasing as well as a useful Art.

Westminster Bridge can only be regarded for its utility and characteristic marks of massive strength. (*Plate* 43.)

The "Pont de Neuilly" is a work in which the great mathematical powers of the designer will be duly appreciated but, as Peronnet and Labelye, altho' excellent Engineers, were very bad Architects, it is in vain to expect in their Works either beauty or elegance.

The Bridge built by Inigo Jones over the Conway is a work so bold and so marked with superior skill that it would alone have been sufficient of itself to have immortalised his name.

The great Bridge over the Taaffe is worthy of observation; it is a work well known and it will be hereafter considered together with other Bridges of Stone, Wood, and Iron.

Nothing can exceed the beauty of the semi-circular Arch, when properly introduced, but, Arches like Columns, are only pleasing to the eye of taste and judgment when disposed in proper situations. (*Plate* 44.) In Bridges we have seen them so applied, and nothing can be more beautiful, but if Arches of any kind are used in Compositions, wherein the early Greek Orders are introduced, no beauty of form can justify such an anachronism.* Such flagrant violations of Propriety may be avoided, and example being more powerful than precept, I shall instance a building which has received no small portion of approbation.** (*Plate* 45.)

Had I not been led by the Composition of these Lectures to search into Original Causes and First Principles, the defects in this Design would not have been noticed. The defects of this work are not confined to the Arches, for, altho' it proposes to be an imitation of Grecian Architecture, yet those very parts are here introduced into an interior, which according to the Constructive System of the Greeks belong exclusively to the exterior. It is impossible for me to impress too much on your minds that Modiglions, Mutules, Dentils, and Triglyphs cannot be admitted in the interior of any Edifice with even a shadow of Propriety. Instances, however, of these violations of correctness in design frequently occur in other Modern Works, as well as in this Composition, and I fear they will continue to be adopted so long as we are satisfied with copying the Works of the Ancients servilely and without recurring to the First Principles on which they were raised.

I shall for the present dismiss the further consideration of Arches and proceed to speak of Domes and Cupolas.

The Ancient Architects, fully impressed with the beauty and importance of Domes, constructed them with durable materials and in the most scientific manner. Had it not been so the astonishing Dome of the Pantheon, the light and elegant Dome of the Temple of Minerva Medica (*Plate* 20), those in the Baths of Diocletian, the one at St. Remi, as well as many others, would only have been known to us in the annals of the Historian.

There is also a very uncommon specimen of Dome at Ravenna, which forms the Roof of the Basilica of Hercules, or, as called by others, the Mausoleum of Theodoric. This Dome, altho' nearly twenty feet in diameter and weighing between eight and nine hundred tons, is notwithstanding formed out of one piece of marble.

The Ancients confined the domical form of covering to buildings whose Plans are either square, polygonal, or circular. These hemispherical roofs were sometimes left open at top for light, as in the Pantheon and in other ancient Buildings, but the Domes of the Temple of Minerva Medica and of the

*It seems probable that this is aimed at the design of Waterloo Bridge, which is not otherwise mentioned. Sir John Soane denied the authenticity of the often quoted praise of this bridge attributed to Canova.—*Editor's Note.*

** The Princes Street Vestibule of the Bank of England dates about 1802. The composition of the Lectures 1806-9. The Author's apology is wholly unnecessary. His architectural instinct was wider than the too restricted basis of theory on which he was working in these Lectures.—*Editor's Note.*

Mausoleum at St. Remi, as well as those of the Baths of Diocletian, are all complete hemispheres. In other buildings Domes are terminated, as directed by Vitruvius, with some characteristic ornament; at the Mole of Hadrian with a Pine Apple, and at the Tower of the Winds with a Triton holding in his hand a wand. There is also a very distinct species of Dome to be seen in the Church of Sta. Sophia at Constantinople, for which happy invention we are indebted to two Grecian Architects, Anthemius and Isidorus. This Dome, tho' less simple than those in Ancient Buildings, is far superior in lightness of appearance and boldness of Construction. The cupola Dome resting on four Arches, springing from as many large piers, makes on its ichnographic projection a perfect square, whose concave surfaces gradually increasing from its base, form a complete circle, on reaching the crown of the four Arches. Thus the entire Dome, reposing on four points, seems rather suspended in the air than supported by the piers.

The Domes of the Ancients seem always to grow out of the substruction and to harmonize and unite with it in the most gradual and pleasing manner, forming as it were a canopy to the entire Edifice. In many modern structures Domes seem to be placed on the roofs without any visible support, and without any apparent connection with the other parts of the Edifice, as at St. Peter's in Rome, St. Paul's in London, the Church of the Invalids in Paris, and other examples. It must likewise be remarked that modern Domes, instead of being terminated with light appropriate ornaments, as in Ancient Works, are now often surcharged with Lanterns of very considerable dimensions, both in bulk and height. (*Plates* 94-108.) However general this fashion may be, it is not less deserving of censure, for as the Dome represents the roof of a square, polygonal, or circular building, in the manner as the Pediment designates the Roof of a rectangular structure, how can we add a Lantern, or any other building, on a Dome? If the Architects at Tralles were formerly reproved for having represented in a scene only, Columns and Pediments on the roofs of their buildings, supposing that one of these barbarous monstrosities had been raised upon the Dome of the Pantheon would not every man of taste in Antiquity have exclaimed against such a preposterous addition? Such an addition, however, was only prevented by the death of Alexander the seventh.

Domes have given place to Spires, a singular species of Composition, supposed to have sprung out of Gothic Architecture, or from the remains of early superstition. It is not improbable that the Obelisks of Egypt suggested the idea of Spires and whatever partakes so distinctly of the Pyramidal form may be reasonably supposed to refer to the worship of the Sun.

Bow Steeple, a fine example of this species of Composition, is full of rich fancy. The well-proportioned arched entrances must satisfy all beholders, and from the square Pilastrade upwards, nothing can be more pleasing, light, and elegant. The Gothic Spire of St. Michael, Coventry, is another fine example; each part seems to grow out of the other until the whole mass finishes in a point.

The Steeple of St. Dunstan's in the East, like its twin brother at Newcastle, is uncommon in its design and bold in its Construction. The effect is light and pleasing and it must be considered amongst the many proofs of the skill and mathematical knowledge of Sir Christopher Wren.

When Spires unite and make a part of the buildings they accompany, as in these examples, they are entitled to all the praise that such fanciful Compositions can claim; but where instead of rising, as it were, out of the ground, they spring from apparent bases on the Pediments of Porticoes, and upon the tops of Roofs, as at the Church of St. Martin in the Fields, St. George, Hanover Square, St. Leonard, Shoreditch, and many other examples, no elegance of form, no variety of outline, can make any such Compositions at all bearable.

Spires blended with Towers, Domes, and other objects of different heights, forms, and as a whole, produce a perspective of the most

pleasing kind, but, as we approach nearer, and find these large objects apparently unsupported and seeming to grow out of pointed Roofs, all such pleasing sensations gradually subside, and end in our disappointment.

Spires blended with Towers, Domes, are considered as the great characteristics, and even necessary appendages to places of Public Worship. Staircases in the same degree are expressive of the convenience, and importance, of Public and Private Edifices.

In places of Public Worship, Staircases are but secondary objects, but in Palaces, Theatres, and Noblemen's Mansions, they are most important features. On this part of our Art we shall derive but little information from the Ancients.

We are told by Le Brun that in the Palace of the Median Kings at Persepolis, partly destroyed by Alexander, there are ninety-five steps of a Staircase of white marble so broad and flat that twelve Horses might without difficulty go up abreast.

If we examine the dimensions of the steps leading into the Peristyles of Ancient Temples they will be found to be proportioned to the Ordonnance, Magnitude, and Character of the building rather than for ease of ascent. Indeed we cannot expect to gain much information on this head from the Ancients, when it is considered that their buildings in general, both Public and Private, consisted of a ground floor only.

Staircases are mentioned by Homer, and Lysias in one of his Orations, describing the House of Euphiletes, speaks of two stories, while at Pompeii there is an instance of a House with a second floor; but as Pliny and Varro do not mention Staircases in the descriptions of their Villas, it is reasonable to conclude that they were of very inconsiderable extent. For the construction of Staircases, Vitruvius applies the invention of Pythagoras, for the formation of a right angled triangle. The ascent of the steps of Staircases, thus constructed, so far from having a moderate inclination, must be very inconvenient and even dangerous. We may, therefore, conclude that the text of Vitruvius has been corrupted.*

In Modern Works, both Public and Private, Staircases, are the very touchstones of sound knowledge and real merit in the Architect.

In every building they are features of such importance that to determine their proper Situation, Character, and Extent, as well as their most suitable forms and proper Decorations, requires all the experience and judgment of the most able Architect. (*Plate* 51.)

The magnificent Staircase at Caprarola by Vignola, and its companion in the Barberini Palace, show great invention combined with rich and elegant fancy.

The Scala Regia in the Vatican being perspectively treated, claims admiration for the singularity of its invention.

Palladio has been particularly happy in many of his Designs for Staircases, they are simple and ingenious, magnificent and useful, with the same classical purity, they display the elegance and simplicity of his other works.

Inigo Jones walked in the steps of Palladio, with what success, the Staircase in Dr. Bell's House in Deans' Yard, Westminster, will evince. (Ashburnham House.) (*Plate* 68.)

The Staircases by Kent in Lord Clermont's House in Berkley Square (*Plate* 71), and in Lord Camden's House in Arlington Street, are works deservedly praised and worthy of imitation. To these examples may be added another of the same superior style of composition, formerly in Melbourne House. This work of the late Sir William Chambers, worthy of being placed in competition with the finest productions of Italy, is no longer in existence.

Staircases,** Vestibules, Saloons, and Galleries, offer a wide field for the exercise of talent in Sculpture, Painting and Architecture. Sir James Thornhill, Verrio, and Kent, all availed themselves of such situations. Would that these examples had been followed by the Artists who succeeded them.

* It will be remembered that Soane has already commented on this method of evading the difficulties of Vitruvius.—*Editor's Note.*

** The subject of Staircases is dealt with in greater detail in Lecture VIII, pages 134-137, and with splendid illustrations.—*Editor's Note.* (*Plates* 68-72.)

Instead we have a present fashion of crowding on to flat monotonous ceilings in our Public and Private Buildings plaster ornaments and small compartments, spotted occasionally with an unimportant picture. Our walls are now covered with fine papers, with a portrait or a bust interspersed, according to the whim of the fashionable decorateur of the day. Instead of all these colifichets, we should have had Decorations that would have done honour to an Algardi, or an Albertolli. We ought to see the walls of the principal rooms of the Mansions of our Nobility dressed with rich hangings, and enriched with all the charms of Historical Painting, and with all the powers of the Sculptor's breathing marble masterpieces.

Our climate will not admit of external Paintings. Statues and Relievoes are the highest Decorations that the Architect can call to his aid on the exterior of his works. Wherever placed, however composed, they must be proportioned to the Magnitude, as well as correspondent to the Architecture and Character of the edifice. "The Alabandines (says Vitruvius) were censured for placing Statues in the Gymnasium, in the attitude of pleading Causes, whilst those in the Forum were holding the Discus, or expressing the action of running or playing Balls."

In Modern Works, Statues are variously introduced, generally with as little regard to Situation as to Character; sometimes on the extremities, or centres of Pediments; sometimes in recumbent attitudes on the inclined sides of Pediments, and frequently half concealed in Niches. The summit of the Steeple of Bloomsbury Church is crowned with a Statue of King George the Second, which occasioned the following epigram.

"When Harry the eighth, left the Pope in the lurch,
His Parliament made him the head of the Church,
But George's good subjects, the Bloomsbury people,
Instead of the Church, made him head of the Steeple."

Statues thus placed are as deserving of censure for the impropriety of Situation, as were those of the Alabandines, for impropriety of Character.

We have not been more successful in our imitation of the Greeks, who, as has been observed already, made use on different occasions of representations of male and female slaves instead of Columns. Homer speaks of the statues of slaves supporting silver lamps in the Palace of Alcinous; and in imitation of these examples we employ not only the divinities but the canephora and slaves of Antiquity to support Lamps, to sustain the roofs of Verandas, to adorn the exterior of fashionable shops, and for other menial offices.*

To Statues and Relievoes may be added the Termini of the Ancients. Termini owe their origin to the rude memorials used by the Ancients to mark the boundaries of each man's possessions. They are of very early Antiquity; as in Holy Writ, Moses is directed to set up stones as Landmarks, these the Hebrews considered sacred, and held that man accursed who removed his neighbour's Land-mark.

Numa Pompilius, to render these memorials inviolable, built a Temple to Terminus and instituted Festivals and Sacrifices in honour of him. In this Temple Terminus was first worshipped under the form of a large mis-shapen Stone, whereunto a human head was afterwards added, and the image on solemn days was decorated with garlands of flowers. If such was the origin of Termini how are we to account for their being so often seen in our Parks, and Pleasure Grounds, on the fronts of Houses instead of Attic Pilasters, in Niches, both externally and internally, as substitutes for Lamp Irons. (*Plate* 46.) To what base uses the noblest ideas are applied:—

Well might the Poet sing,

"Imperial Caesar dead, and turned to clay
Might stop a hole to keep the wind away."

Leaving the consideration of Statues, Bassi Relievi, and Termini, let us enquire into other modes of Decoration used by the Ancients. According to Vitruvius the

* *Note.*—I know not how these fancies are to be reconciled to the practice of Antiquity and to the precepts of Vitruvius, who says the Architect should be learned, that he may introduce into his works only those Decorations for which a satisfactory reason can be given. Nothing but custom can reconcile these absurdities: that which is frequently seen is seen without emotion.

interior of their Houses were embellished with the representations of Edifices with Columns and Pediments, and the fronts of Scenes, Tragic, Comic, and Satiric. The Walls of their large Apartments were decorated with Landscapes, and Paintings of figures representing the Gods, fabulous Histories, the Trojan War, the Wanderings of Ulysses, and other subjects conformable to the nature of things. By such practices the Ancients attained their high celebrity. In the 15th and 16th Centuries the great Patrons of the Arts, the Leos and Medici, entered fully into this spirit of the Ancients, and by decorating the Ceilings and Walls of their Churches and Palaces with Painting and Sculpture formed those great Artists, whose Works have since been the wonder and delight of the enlightened of all nations. Let us hope the time is not far distant when the same spirit will arise in this Country, our Artists enjoying those opportunities that so successfully called into action all the mighty powers of the Italians. England will then boast of her Raphaels, her Titians, and her Michael Angelos.

In the works of the Greeks, Decoration of every kind may be traced chiefly to the symbolical representations of their divinities, to their religious ceremonies and sacrifices, their fabulous histories, to their imitations of the infinite variety in the vegetable and fossil world, and to their Architectural Constructions. The Decorative System of the Egyptians also may be sought for in the same causes, except, that with them, all Ornament is independent of Construction.

In the best works of Antiquity Propriety of Decoration has been particularly attended to. The Ancient Architects, fully impressed with its importance, seem always to have been desirous of using such Ornaments only as were analogous, and such as tended to determine the Character and Destination of the Edifices. Of these truths we have sufficient proofs in the different Ornaments to be seen, not only in the ceilings and soffites of the Peristyles and other parts of ancient Buildings, but likewise in the innumerable fragments of Cornices, Friezes, and Capitals, either preserved in the different Italian Villas, or found in the various ruins, so abundantly scattered all over the Campagna of Rome.

Among the different Decorations adopted by the Ancients, the Serpent, one of their emblems of eternal duration is very often seen. In Holy Writ we are told that Moses set up a Brazen Serpent, whose virtues, to those who were within view of it, were so great that even the bite of the Python himself would have been harmless.

In Egypt, the God Knuphis, was worshipped under the form of this reptile. In Greece and Italy, the divinity, Esculapius, is always represented attended with a serpent twisted round a staff. The Indians also place a serpent in the hands of their divinities. From the serpent of Eden to the serpent Achmin, this reptile, for beauty of form and for wisdom, has maintained an uninterrupted celebrity. Hence we may account for the very frequent representations of the serpent in the decoration of the Temples, Altars, and Tripods of Antiquity. By referring to First Causes we shall perceive the same Propriety in the other Ornaments used in Ancient Works. In a future Discourse,* therefore, I shall endeavour to point out the origin of the various Ornaments to be found in the remains of Ancient Works, that the Student may be enabled to distinguish that which ought to be rejected and that which should be admitted, without violating the Principles of Grecian Architecture, or in other words, without offending against the Laws of Nature, Propriety, and just Character.

Propriety in Decoration was not, however, always strictly attended to; the Ancients had their bad artists as well as the Moderns. Vitruvius complained that in his time the manners of men were so changed and depraved that in the Decoration of their buildings, instead of introducing subjects copied from Nature, Monsters, rather than the resemblance of natural objects, were painted on the Stucco, and Reeds and Candelabra substituted for Columns. How is it possible, exclaimed that great Architect, for Reeds to

* Lecture XI.

support Roofs, Candelabra Buildings, or soft and slender Stalks entire Figures?—or for the flowers of stalks to produce demi-figures? Yet Men being accustomed to the sight of these absurdities instead of censuring, become pleased with them.

If these absurdities in the Works of Antiquity received such censure from the Father of Architects, what would he have said on seeing the exterior of a modern Building decorated with the Caducei and other attributes of Mercury, or of an interior enriched with the representations of Winged Figures, and with Lions Heads in the Cymatium of the Cornice? . . . In what terms would he have expressed his disapprobation on seeing the outsides of many of our buildings disfigured and disgraced with expensive wooden and oil-cloth Verandas, or Marybone Bird-cages? What would have been his mortification on seeing our Halls of Justice, Gloomy Prisons, Solemn places of Worship, Baronial Castles, Magnificent Mansions, elegant Villas, Private Houses, and even the fronts of our Shops, crowded indiscriminately, not only with these fantastical inventions which he has so justly condemned, but likewise with the Wings, Globes, Serpents, and other symbols of Heathen Worship, as well as with the Crowns and Wreaths bestowed on the Victors in the Olympic Games, with the representations of Animals, partly human, partly beast, partly bird, and partly fish; with Griffons, Sphinxes, and Serpents, with the sculls and heads of Oxen, Rams and Goats; with the Eggs and Darts of the Mundane system, and with every other species of Decoration to be found in Ancient Edifices.

However beautiful the forms of such Decorations may be, they are only applicable to the mythology and particular customs of the Ancients. It follows, therefore, that they cannot be admitted into the Decoration of Modern Buildings without violating every Principle of sound Judgment and correct Taste.

However great and fascinating the powers of Decoration may be, when the Architect, Painter, and Sculptor unite their talents in the same work, yet Ornaments, altho' characteristic and of the most exquisite execution, will be of small value if the Edifice is in other respects deficient in Character and justness of Proportion.

The Ancients were so fully sensible of the necessity of a thorough knowledge of the harmony of Proportion, and of the concord of sweet sounds, that the Poets feigned Amphion to have built the walls of Thebes by the powers of Music. Vitruvius tells us that an Architect should not be ignorant of Music.

Galiani adopts this idea and attributes the degeneracy of Architecture to our neglect and ignorance of that Science. Others have considered Architecture as a species of occular Music, and, according to Bianchini, all the Proportions in the Sepolchro degli Liberti della casi di Augusto are exactly the same as in Music.

To these authorities may be added the opinion of Monsr. Ouvrard, the ingenious author of a Treatise on the Application of Harmonic Proportions to Architecture, who declares that all Architectural effect depends entirely on Harmonic Proportions, and on the analogy of those Proportions with our senses. These ideas have been so far misunderstood that some of our writers have maintained that no building could be beautiful if all its parts were not in Arithmetical and Geometrical Proportion. This, however, is not the case. These fanciful opinions, these wanderings of the imagination, like the secular harpsicord, invented by Pere Castell to demonstrate the analogy between sounds and colour, may show great ingenuity, and originality of thinking, but are neither applicable nor useful.

According to Claude Perrault, the learned translator of Vitruvius, and Architect of the celebrated façade of the Louvre, Architecture is not confined to any shackled mechanical system. It has no fixed Proportion, Taste, good sense, and sound judgment, must direct the mind of the Architect to apply harmony and justice of relative Proportion, the correlation of parts with the whole, and of the whole with each part. Let the young

Student study incessantly, and endeavour to infuse into his own Compositions, such harmony, fitness and mutual relation of parts as is found in the great productions of Nature and experienced in the magical effect produced by the sublime Works of the Ancients.

In no part of the practice of the Profession of Architecture will the Artist be more distinguished from the patronised pretender to Architectural knowledge than in the correct application of relative Proportion and fitness of parts. The Architect who is master of these powerful means may, without the aid of Sculpture, Columns, and costly materials, please the eye, and even satisfy the minds of those who possess elegant fancy, classical taste, and sound judgment.

The following examples will be sufficient to establish this important truth: the front of General Wade's House by Lord Burlington, and the lawn front of Wilton House (*Plate* 73), as well as Lindsey House in Lincoln's Inn Fields, the two latter the admired work of Inigo Jones. (*Plate* 47.)

Lindsey House, with its plastered front, and its common red tiled roof, from a certain harmony and fitness in its parts, commands attention and excites pleasurable sensations in the mind of the spectator, whilst the adjoining House, built by Leoni many years afterwards, with every advantage of materials creates disgust, from lack of that Harmony of Proportion so visible in the work of Inigo Jones. In the work of our great Architect, the Roof, in quantity, is just what it should be; even the Chimney-shafts contribute to the beauty of the building. In the adjoining House the roof is so preposterously high, and the Chimney-shaft so out of all Proportion, that these parts seem to overload and crush the whole front.

It must be observed that in many modern buildings the Roofs and Chimney Shafts are not considered of so much importance in the effect of a Composition, as they formerly were. To treat the Roof merely as a protection from the weather, and the Chimney shaft only as a tube to convey away the smoke, is not sufficient. These parts are decidedly of great value in the general effect of a building. That Chimney shafts have been so considered in the past I need only refer the Student to the "Architectural Antiquities of Great Britain," a very ingenious and useful work, wherein are shown several curious and beautiful examples of Chimney Shafts well deserving the attention of the young Artist. He should never forget that no part of his Composition must be neglected; for, however small, it will be of importance in the eye of true Taste. In the buildings by Lord Burlington and Inigo Jones mentioned above there are no prominent features, no richness of materials, yet the effect is more than satisfactory. On the other hand, if Columns are disproportioned, as in the Portico of the Admiralty, altho' the features are large and ought therefore to command respect, yet such is the total want of relative Proportion in the parts, the Portico being squeezed in between the wings of the building, the whole Composition is rendered uninteresting.

If Columns are mis-placed on a high Basement, perforated with apertures of different kinds, they become rather defects than beauties. It is worthy of remark that in all the Works of Palladio, so truly has that great Architect adhered to the practice of Antiquity, there are only three examples of isolated Columns placed upon perforated Basements, and only one of the three has a projecting or open Portico.

In this Country, where the difference of Climate renders projecting Porticoes on high Basements less convenient, and consequently less pleasing, they are but too common.

Lord Burlington's Villa at Chiswick, * in Yorkshire, and the Mansion House in London are examples, amongst many others of this mis-application of Columns.

Inigo Jones, Perrault, and other great Architects, whenever they have introduced into their works a high Basement, feeling the impropriety of perforating what may be called the Base of the Column, have always made their Porticoes recede from the front

* Blank in MS., pencilled in *Cusworth* (?) which is a house by James Paine.—*Editor's Note.*

line of the Wall, thereby rendering the defect of apparent instability less conspicuous. This may be seen in Perrault's celebrated work, the Colonnade of the Louvre, and also in Gabriel's Garde Meuble in Paris; in the Queen's House at Greenwich, and until lately in the front of Gunnersbury House, the two latter, the work of Inigo Jones.

Contrast Columns thus elevated with those forming the semi-circular Porticoes of St. Paul's Cathedral, and the Portico of St. Paul's, Covent Garden (*Plate* 13), or perforate the continued Basement of the little Temple at Tivoli (*Plate* 25), and compare the design as thus altered with the original, and the truth of what has been advanced will be too apparent! and the Student will be the more forcibly impressed with the proper and improper application of Columns.

In the Architecture of the Chinese, which has not been changed for thousands of years, Columns, which are at least as frequent as in the buildings of Europe, are almost invariably used as in the best examples of the Greeks and Romans. Sir William Chambers** tells us that Chinese Architecture has a remarkable affinity to the Antique. The general form of almost every composition has a tendency to the pyramidal figure. In both, diminished Columns, with bases resembling the Attic bases of the Ancients, are employed for supports. The disposition of the Chinese Ting is not much different from the Peripteros of the Greeks. The Atrium, the Monopteros, and Peristyle Temple, are forms of Buildings resembling some used in China. Let me not be suspected, however, Sir Wm. Chambers adds, of an intention to promote an Art so much inferior to the Antique, and so very unfit for our Climate.

"I look upon the Chinese buildings as toys in Architecture, that may be sometimes allowed, and therefore, in compliance with the desire of several lovers of the Art, I have published designs of their buildings that they might be of use in putting a stop to the extravagancies that daily appear under the name of Chinese."

If, to the different attainments and extensive studies required by Vitruvius to form an Architect we subjoin the various difficulties he has to encounter in the exercise of his Profession, we cannot be surprised either at the very limited number of regularly educated Architects, or at the present state of the Art. Architects have difficulties to encounter unknown to Painters and Sculptors. Painters and Sculptors can exhibit their works in whatever stage of progress they please, whilst those of Architects are viewed from day to day and false impressions are taken from unfinished Works. Architects are likewise frequently trammelled by circumstances which they cannot control, and are often censured for what has been done, not from their own choice, but from necessity, as will be seen from the following examples.

In the Cymatium of this building * Lions heads were placed to carry off, through their mouths, the water from the Roof; in imitation of the Cornice of the Tower of the Winds at Athens. An Attic being afterwards added, that which was before conformable to the nature of things became an absurdity. The North Front of the Bank of England is another more striking instance of the censure to which Architects are liable from local causes. This façade was originally constructed agreeably to the Drawing before you, but sometime afterwards it became necessary to enlarge the building to twice its former extent. A Design was accordingly made with a large Portico in the centre. On removing the old houses on the site it was found that the space would only admit of the contracted centre here shown, and hence originated the narrowness of the centre bay so disproportionate as the centre feature of the extended front. (*Plate* 48.) From these, and other examples, which might be produced, it may be concluded that for many of the defects in our buildings, if traced to their real causes, Architects would receive praise where they now receive censure, and, what is of more consequence, their imperfections would not be considered beauties, and be so often copied

** There is reason to think that Sir Wm. Chambers was indulging in a solemn mystification.—*Editor's Note.*

* An illustration probably of some part of the Bank, a building in one of the Courtyards.—*Editor's Note.*

by their followers, as the wry neck of Henry the Fourth was imitated by his Courtiers.

I shall now make a few observations on Theory and Practice. Nothing can be more useful to the Student than his own theoretical dreams of magnificent Compositions produced by a warm imagination.

". . . . . in the gay morn of life,
When Hope shone bright, and all the prospect smil'd."

Then let lively Fancy, attended by flattering Hope direct the young Artist to the means of storing his mind with those Ideal Designs, with those fascinating treasures, which create a true love for his Art. Let those enthusiastic sensations stimulate him to exertion, and teach him to enjoy by anticipation all that Fame and Fortune can bestow, and let his studies only cease with his existence.

However useful the early theoretical Compositions of the young Student may be in forming the great Architect, his judgment cannot be solely matured by such studies. Nor will they sufficiently prepare him to venture on that tempestuous sea of troubles, which the practice of Architecture presents. Here he must commit himself with the greatest caution and due mistrust of his own powers. Other studies, other thoughts, must now occupy his mind. The delightful Visions of early youth must now give place to the choice of materials, and to questions of solidity and practicability of execution. He must have regard at times to the shackles of building in a great City, and always to the restraints of economy. Especially he must attend to the correct calculation of expense, so necessary to the moral character of the man, and so important to every Architect in the discharge of the great trusts reposed in him.

The young Artist is apt to imagine that, when he is able to combine together a great number of complicated forms, each well balanced with the other and making together a magnificent whole, that he is then fully prepared to meet all the difficulties of a professional life. Alas! he will soon find that much remains to be acquired. He must distinguish between that which is useful, and that which is merely ornamental. He must have a perfect acquaintance with all the details and with all the different uses of the work on which he is engaged. Without these requisites, although his Composition may be strikingly Characteristic, strongly marked with the mind of Genius and the fascinating powers of elegant Fancy, it will be little calculated for the purposes required, and therefore inferior in consideration and value to other designs of much less merit in point of Invention and classical Taste.

To apply these remarks, let us suppose that it was in contemplation to build a Bridge over the Thames, or any other great River. Let us suppose four Designs offered by different competitors; two of them composed without any regard to Expense, the third uniting Beauty and Utility, and the fourth formed with an eye to Convenience only. On this occasion the two first Designs would be treated as theoretical Visions, as pleasing Pictures, as mere Portfolio Drawings, either of the others having practicability and characteristic propriety must be entitled to superior considerations. In further elucidation of the difference between Theoretical and Practical Designs, and likewise to point out another species of disappointment and vexation to which the Architect is exposed, I shall subjoin two Designs for a Senate House. The first, composed as a Study, in the quiet moments when the youthful mind, unshackled and unsicklied with the frequent disappointments of a professional life, was only occupied in the contemplation of the magnificent remains of Palaces, Temples, Baths, Triumphal Arches, and other objects interesting to the Artist, and capable of firing his imagination. (*Plates* 49-115.) The first Design, altho' made under such advantages, had it been offered as a fit model for such an Edifice, would have exposed to the criticisms of persons conversant with the business of Parliament who would soon have discovered in the Plan, such a want of convenience and so many deficiences in the most essential requisites, that they would only have considered this Composition as an effort of fanciful imagination, little adapted to the purpose required. In the second Design, subsequently made in advanced life, in

obedience to a command of a Committee of the House of Lords, appointed to alter and improve the buildings then used as the Lords' House of Parliament; it was proposed to make the present House of Commons, a central object between the two Houses of Parliament, and to restore that noble building to its original appearance, as a Chapel for the Members of both Houses. Of this Room I have no drawing, but the Plan of the Design and the Elevations next the River and Abingdon Street, when compared with the first and earlier Composition, will be sufficient to offer another striking example of the difference between theoretical and practical Designs.* (*Plates* 50-51.) I trust it will not be considered irrelevant to state that in this great National Work, the interests of the Sister Arts, so essential to the honour of a great and civilised Nation, had been particularly attended to, as far as that prescribed economy, which too often fetters the mind and disturbs the ideas of the Artist, would allow.

On this principle the Scala Regia, or Royal Entrance, was to be adorned with the statues of our Kings and relievoes of marked events in the history of our envied Country. (*Plate* 51.) Another idea, which promised to be more than commonly favourable to the advancement of Historical Painting and Sculpture, was likewise suggested. Instead of continuing to place our Public Monuments in Westminster Abbey, where Nurses and Children are the Principal Visitors, and where the remains of any person may be honoured with interment, who leaves a sufficient sum of money to purchase that distinction, it was proposed to decorate the Court of Requests, the Painted Chamber, the Great Vestibule, and the other Great Rooms, intended to form the principal Avenues into the House of Lords, with Painting and Sculpture to commemorate the splendid achievements of our Heroes by Sea and Land. The subjects introduced into this great National Edifice would have been of the most elevated and dignified kind, calculated to call forth the most sublime conceptions of English Artists, who would have been further stimulated to great exertions by knowing that their Works would be in the view, not only of the Public in general but likewise of the highest authorities of the Country; of those best enabled by powerful and commanding situations, by great opulence, and by superior taste to promote the interests of Art in general. Animated by such powerful incitements, all the energies of mind of our Painters and Sculptors would have been called forth to record the splendid and glorious deeds of Patriots and Heroes worthy of having their names rendered immortal.

Such were the objects of this Design which, after having been honoured with the approbation of the first Authorities, and in every respect prepared for execution, was finally laid aside from a suggestion that Grecian Architecture was less appropriate to the situation and subject than Gothic. That a Gothic structure would better assimilate with the Chapel of Henry the Seventh, and Westminster Abbey, and would thereby produce a burst of Architectural Scenery, as yet unparalleled in any part of Europe. How far these magnificent expectations and promises have been realised, the building itself will determine.*

Had this disappointment happened to a Young Artist it might have checked the rising energies of his mind, palsied his pursuits and perhaps have rendered the remainder of his life inactive.

In these Lectures, Architecture has been several times spoken of as a pleasing as well as a useful Art. I shall now produce examples to mark these important distinctions, and to impress them more forcibly on the minds of the Students. To this end I shall exhibit drawings of three of the Roman Triumphal Arches. In these buildings the Columns are merely Ornamental, calculated

* These are given in "The Works of Sir John Soane," chapter 10, pages 106-114, S.M.P. No. 8, to which the interested student is referred.—*Editor's Note.*

* James Wyatt's lath and plaster Gothic additions of 1800 to the old Houses of Parliament, where the fire of 1834 afterwards began.—*Editor's Note.*

to please the eye, at the expense of the judgment, by breaking the flat surface and producing an effect of light and shade. In this view of these Compositions even the Pedestals are admissible and become beauties.

In the Banquetting House at Whitehall by Inigo Jones, two Orders of Columns with the Entablature breaking over them produce on a surface almost flat as great a variety of different and striking Painter-like effects as could be expected from objects on different planes. In this building, as in the last three examples, Architecture is little more than a pleasing Art, but in the Church of St. Paul, Covent Garden, another work of the same inimitable Architect, Architecture assumes another Character. Here the Columns, the great Architrave, the Cornice with its Cantilevers, and the Pediment are in every respect the offspring of Utility, and thus, by blending together Utility and Beauty in the same Composition, little short of a perfect work has been produced. (*Plates* 13-14-62-47.)

The Columns on the two fronts of Blackfriars Bridge, like those on the Triumphal Arches and on the exterior of the Banquetting House, are objects of Decoration only. These Compositions must be considered as the playful fancies of Genius, unfettered by Rules, calculated to increase the pleasing effects, and likewise to show the varied powers of Architecture, to interest the mind, but such designs will never reach true Sublimity.

Time will not permit me to enlarge further this evening on this important part of my subject, but I shall be anxious hereafter to resume the topic. (*See Lecture X.*)

This Lecture completes the number required by the Laws of the Academy, yet much remains to be done to fulfil the duty that the Professor of Architecture owes to the rising generation of Artists, who, in their various works, exhibited on different occasions in this Academy, have evinced such Talent and Promise as entitle them to all the assistance this Institution can afford. From the increasing energies of the Students and their finer feelings for the Art it may be fairly expected that ere long the respective and distinct duties of the Architect, the Surveyor, the Measurer, the Builder, and Contractor will be properly distinguished from each other. If these young Students pay a due regard and consideration to the moral Character of the Architect in the just discharge of his numerous and very important Duties, particularly as respects correctness in the estimated Expense of Works, we may reasonably expect that all the mischievous tendencies, and sometimes fatal consequences, of the present ruinous system of building will be effectually checked, and the profession restored to its purity and former importance.

Let the young Architects therefore keep in their minds how much depends on them. It is by their zealous attention to the general duties of the Architect, by their perseverance in the arduous task they have undertaken; by their pursuit of their studies with unabating zeal and unremitting application, that we can alone hope for any improvement in Architecture. As "no profit grows where is no pleasure ta'en," let me, therefore, my young Friends, repeat to you my most earnest recommendation to labour successfully, considering your most laborious and painful exertions, nay, even your privations to attain superior knowledge, as your greatest and only real pleasures, and be well assured that complete success must ultimately crown your endeavours.

With my view of the importance of the subject, instead of the Lectures you have already heard, I shall endeavour as far as health, and the unavoidable interruptions of professional practice will permit, to compose for the next Session other Lectures in continuation of those delivered this year. (*Lectures VII—XII.*)

In them, the qualities, powers, and choice of Materials, the principles and application of Carpentry—*la coupe des pierres*—and Construction in general, both Ancient and Modern will be fully discussed.

I shall likewise endeavour to explain the Laws and Principles of Composition, which have been only briefly touched on, and to point out the manner in which the component

parts of buildings, already described in these Lectures, have been applied in Ancient and Modern works. The knowledge of these Laws and Principles is most important in the best interests of those young Students, who aim at superior distinction, and who are not satisfied with transferring from the rich stores of Antiquity, moulding for moulding, and form for form, but who like Brunelleschi, Palladio, and their fellow labourers in the vineyard, feel desirous to apply the Principles on which the mighty Works of the Ancients were constructed, and thereby to infuse into their own Compositions the true spirit and classical correctness of Ancient Architecture. In these further Lectures the state of Architecture in this Country will be resumed and continued down to the demise of Sir William Chambers. Drawings of some of the principal Designs and buildings erected under the direction of different Artists will be produced, and the obligations of Art to their successful efforts particularly pointed out to the young Student.

The decorative parts of our Art already briefly noticed will be enlarged on in this Course, for it is of the most serious import to the Artist to be able to trace every species of Decoration to its source, and likewise to be well acquainted with the different styles of executing Ornaments found in Ancient Works. This knowledge will be most effectually attained by attentively studying the Taste, Character, and Expression of the original Works on the spot. As some of the young Architects cannot have this advantage, Casts in Plaster carefully made from them must in such cases supply that deficiency. Impressed with these truths, and enthusiastically attached to the Profession, I have often lamented that in the Royal Academy the Students in Architecture have only a few imperfect Casts from Ancient remains, and a very limited collection of Works on Architecture to refer to. I have, therefore, never lost any opportunity of collecting Casts from the ruins of Ancient Structures, Marble fragments, Vases and Cinerary Urns, as well as every Book and Print that came within my reach on the subject of Architecture, and the Arts relating thereto.

On my appointment to the Professorship* I began to arrange the Books, Casts, and Models, in order that the Students might have the benefit of easy access to them. The Drawings now offered to your inspection are part only of what has been already done for that purpose and form a portion only of the entire Plan, but they will give some idea of the means by which I proposed to discharge the duties of my situation to the advantage of the Students, for whose improvement the Professor must always in a very considerable degree be held responsible.

Before I conclude I must beg to observe that the Lectures I propose for the next Year will, like those already delivered, require a very considerable number of Drawings in elucidation of the different subjects that will be brought under consideration. It has been noticed that owing to the unavoidable haste in which the Drawings, from their great number, have followed each other, enough time has not been given to allow the Students to consider them sufficiently. To prevent this inconvenience, and that the Students may avail themselves of every effort in my power to assist them in their studies, I propose in future that the various Drawings and Models, shall, on the day before, and if necessary, the day after the public reading of each Lecture, be open at my House** for the inspection of the Students on Architecture, where at the same time, they will likewise have an opportunity of consulting the Plaster Casts and Architectural Fragments.

* 1806. This lecture was first given, January 16th, 1812.—*Editor's Note.*

** Now Sir John Soane's Museum, 13, Lincoln's Inn Fields.—*Editor's Note.*

END OF LECTURE VI.

END OF THE FIRST COURSE.

LECTURES ON ARCHITECTURE

By Sir John Soane, r.a.

SECOND COURSE. LECTURES VII—XII.

LECTURE VII.—DISTRIBUTION, CONSTRUCTION, DECORATION.

(*First Delivered in 1815.*)

Mr. President,—By the Laws of this Institution, Six Lectures on Architecture are to be delivered annually therein, and two years (1813-1814) having elapsed since I had the honor of addressing you as the Professor in that branch of the Fine Arts, I feel it to be incumbent on me to state that the omission has not arisen from any intentional neglect of duty, but from a severe and tedious illness which confined me to the house at the very time fixed by the Council for the reading of the Lectures. I have stated the reason of my absence, to show my respect for this Institution and likewise to prevent my young Friends, the Students in Architecture, from considering me deficient in that zeal towards them that I had pledged myself to exert, until the Academy selected some other person, better prepared than myself to discharge the important office of Professor. By the regulations of the Academy the Professor is directed "to form the taste of the Students, to instruct them in the Laws and Principles of Composition; to point out to them the beauties or defects of celebrated productions, to fit them for an unprejudiced study of Books on Art, and for a critical examination of Structures." These are the duties imposed on the Professor of Architecture, duties far beyond my powers, except in point of zeal and enthusiastic admiration of our noble Art, as I shall be amongst the first to declare. However little prepared to perform such duties yet I must take encouragement and trust that my present labor will find favor with others, since it has been undertaken for no person's sake less than mine own.

In the preceding Six Lectures on Architecture I endeavoured to trace that most ancient and most useful of the Fine Arts from infancy to the best times of its perfection, and from thence through different stages of decline to the almost total state of darkness through the Middle Ages. After that eventful, that melancholy period, the state of Architecture was shewn in happy Revival under the auspices of the enlightened Leos and the liberal Medici; and from that splendid epocha, the subject was continued down to the present time.

In those Discourses I attempted to demonstrate to the Young Students the utility and importance of our Art, and that all its great and leading Principles were to be found in the immutable Laws of Reason, Nature, and Truth; in the Works of the great Architect of the Universe, and in the practice of the Ancients, so fortunately preserved to us in the inestimable remains of many of the superb Structures of Antiquity.

Much, however, yet remains to be done, and for this reason at the end of the Sixth Lecture, a promise was made that, instead of reading again those already delivered, the subject would be continued, and Six additional Discourses given on those points which had only been briefly touched on, as well as upon others, which, although important to the advancement of Architectural knowledge, yet from want of time had been entirely unnoticed.

I now proceed to redeem that pledge and to discharge the duty I owe to the Students in Architecture by pursuing the arduous and difficult task I have undertaken. Happy, most happy shall I ever consider myself in any opportunity of evincing my gratitude and regard for a Profession to which I owe all

the advantages I now possess. Let me add it is not the least satisfaction of my life to have the pleasure of addressing the Young Students in Architecture.

"In their gay season of ingenuous youth,
While inborn honor points the road to truth,
While the pure soul in search of science flies,
And the first hope is to be esteem'd and wise."
Annual Register, 1771.
Vol. 14, p. 244.

I must premise that in this and the following Discourses, I may occasionally refer to, or even repeat, some parts of subjects that have been already noticed in the former Lectures. In those I am now to read, examples will be exhibited to shew the application of the various Materials which were the subject of the preceding Discourses. Such observations and practical remarks on buildings of different kinds and of different Countries, as I have been able to collect from the works of those Authors, who have written upon Architecture, and the Arts and Sciences connected therewith, will be laid before you as well as my own reflections on their opinions and practice.

This view of my subject will involve a comparative consideration of the buildings of different Countries, a very difficult, but I trust a very useful part of my duty.

The great points or objects now to be considered might be classed, and separately treated of, under the heads of *Distribution, Construction,* and *Decoration.*

Distribution, comprehends the divisions and arrangements of the various parts of buildings of every kind, as to Solidity, Convenience, Elegance, and Beauty. Distribution must therefore be viewed as one of those essential and important objects of Architectural Study that must claim the most serious consideration of the Architect, and require the fullest exertion of his talents and genius.

Construction is another very necessary and useful part of our Art. By the knowledge of construction, the Architect is enabled to direct and instruct the Artificers, instead of being controlled by them. Through a knowledge of Construction he also becomes capable of discharging that most important and most necessary, altho' sometimes neglected part of his Professional duty, namely, the correct ascertainment of the Expense of the Designs proposed to be put into execution. From a deficency in practical knowledge the greatest evils have often been entailed on the Artist, and the most severe disappointment on the Employer; who, delighted with the rich Fancy and classical Taste displayed in the Composition of the Architect, has afterwards had to deprecate the miseries he has been led into by erroneous calculations and mistaken ideas of Expense. If these are amongst the effects of a want of constructive knowledge the Young Architect cannot be admonished too frequently, nor taught too plainly to consider his Plans maturely and reflect deeply on whatever relates to the most correct, ready, and effectual execution of his Inventions, as well as the necessity of giving the most assiduous and indefatigable attention to the just discharge of all his Professional duties. The duties of the Architect extend beyond the Employer, to the Employed. He must never forget that he is the intermediate agent between the Employer whose interest he is to study, and the Mechanic whose rights he is to defend. To discharge these important, useful, and honorable duties, the Architect must acquire a thorough knowledge of the qualities of the different species of Materials he has to use. Likewise he must have an

Note.—We are continually reminded of the dreadful consequences and mischievous tendency of defective, hasty, and incorrect Estimates; for it is from the consideration of these circumstances that those who wish to build, apply rather to Builders, who have Houses ready constructed to dispose of, than to Architects regularly educated for the Profession. How many of those who have built under the direction of Architects (even in our days) have unhappily had to deprecate the miseries they have been led into by erroneous calculations and mistaken ideas of Expense. This is certainly a sore evil, which to the disgrace of the Profession has existed in different Countries.

In England it has now subjected our Art almost entirely to the control of Speculative Mechanics and must ultimately, unless checked by the zeal and industry of the rising generation of Artists, occasion the ruin of the Profession. This lamentable failing in our duty is not, however, of modern growth, it existed amongst the Romans. How many Fathers of families, exclaims Vitruvius, have to complain of being led into great and unexpected expenses and justly impute their ruin to an ill-placed confidence, and a want of constructive knowledge; or to speak in plainer language, to the ignorance or criminal inattention of their Architects.

extensive constructive knowledge of every kind. Without these acquirements, elegance, ingenuity, and classical purity in his Compositions, facility and effect in his Drawing, and every other attainment connected with his Art will be of no avail. All his inventive powers and correct taste will become useless, if not dangerous, as tending to disappoint the Patron, to dishonour the Architect, and to disgrace the Profession.

However important *Distribution* and *Construction* may be, *Decoration* is no less worthy of our attention. *Decoration,* in its most general acceptation, when applied to Architecture, comprehends, according to most Writers on the Art, the union of the different Ornaments with which buildings of every denomination are enriched. In Decoration the Orders of Architecture are prominent features, they are as essential to the Architect as colours are to the Painter. The Student therefore must not consider the acquisition of a thorough knowledge of the Details and Proportions of the Orders as unnecessary, nor can their importance be too much impressed on his mind. Strange as it may appear to some of my auditors it has been supposed possible, nay various attempts have been made, to reduce each of the Ancient Orders to some general standard in its constituent parts, so that, the Order to be used being determined upon, the Student need only refer to his Book and there find an example suitable to the exterior, or interior of every description of building whatever.

This suggestion has been justly treated by many as a ridiculous fancy, the chimera of a disordered mind. Could one style of Composition be formed to suit the differing Character of buildings of every kind, Architecture, instead of being the most noble of the Fine Arts, would be merely mechanical.

How different from this amalgamation, this generalising of things, is the doctrine derived from the remains of Antiquity, the Writings of Vitruvius, and the Works of those great Masters of Art to whose zeal and enthusiasm we owe the Revival of the Ancient Architecture. In the remains of Ancient Buildings we shall see that particular consideration has been given to the Locality as well as to the Nature of the Materials, and that all the Variations, nice Distinctions, and shades of Character have been constantly attended to. If we direct our attention to the three Orders of Architecture in these Remains, we shall not find any two examples without great differences in Quantity and Character, and, if we refer to the Text of Vitruvius, we shall learn that Columns must be diminished or enlarged in their Proportions according to the Nature of their Situations. Further, if we examine the Writings and Works of the great Masters of our Art we shall discover in them very considerable deviations, not only from the practice of the Ancients whom they profess to copy, but likewise amongst themselves. From these examples it is evident that any attempt to establish one general Standard of Proportion for either of the Orders indicates a total disregard of the Principles on which they were produced.

The Tyrant Procrustes, by shortening or lengthening his guests at pleasure, might make the same bed suit any of them, but Architecture cannot be so tortured; there can be no common scale; the same proportioned Columns and Entablature, nay even the same kind of Materials cannot be applied indiscriminately in every Situation and in every Class of Building.

In the application of the Orders of Architecture and of the other rich stores of Antiquity, the Student, if he does not look back to Primary Causes, will often be misled by the prejudice of custom, and by the recurrence of licentious examples, and will perhaps attribute to Design what was in fact produced by accident alone. Thus, for instance, in the Doric Temple at Segesta the shafts of the Columns are finished at the top and bottom only, sufficiently to determine the magnitude of the inferior and superior diameters. Likewise, in Attica, there is an example of remote Antiquity in which the Columns of the Temple appear in an unfinished state, having only the indication of flutings for a few inches under the Capitals. In the Temple at Delos, the flutings in the Columns

are expressed both at the top and bottom, and the remainder of the Shaft is left quite plain In succeeding times these Works have been looked upon as Models for imitation, forgetting that it was the practice of the Ancients to leave the fluting of the Columns and other Decorations until the building was completely formed. The great Masters of our Art in Italy, having probably stumbled upon these and similar works, used imitations thereof in many of their great productions in preference to the Simplicity of the Ancient Orders. This deviation from the Purity of Ancient examples, this fashionable mania for mutilating the simple and natural outline of the Column and Pilaster became general. Michael Angelo and Pietro da Cortona, Ammanati, Michele san Michele, Vignola and Palladio, all alike sacrificed at the shrine of false Taste. In many of the works of those great Masters, the shafts of the Columns and Pilasters were at times so tortured, in every possible manner, until at last the beautiful swelling contour was metamorphosed into a series of distortions which, however inconsistent with every Principle of Beauty, were cherished and used, not only by Boromini and his School, but by Raphael, Bernini, and other distinguished Artists.

Whether Rusticated Columns and Pilasters owe their adoption in Modern Works to the causes already suggested, or to Ancient examples, such as the Curia of Tullius Hostillius, and that part of the Castellum of the Claudian Aqueduct now called the Porta Maggiore (*Plate* 52) or merely to the contemplation of, and wish to transpose into Architectural Compositions, the resemblances of crystalizations, and other natural productions, is not to my immediate purpose. The fashion for Rustication was not long confined to Columns and Pilasters, the dressings of Doors and Windows soon partook of the same style of Decoration, as well as the substructures, and other parts of great Works. Lastly the entire surfaces of buildings of every description were adorned either with smooth or vermiculated rustications, or with others of a ruder description, such as the Pitti Palace in Florence, the Luxembourg in Paris, the Grotto in the Garden thereof, and other works of great magnificence. This idea of rusticating the entire surfaces of Buildings was probably taken from the Walls of the Temple of Vesta, those of Mars the Avenger, the Piazza of Nerva, and other vestiges of Antiquity.

To the examples of Rusticated Work already quoted I shall add the exterior of the House, which Frederigo Zucchero* designed and built for himself in Florence, as an uncommon and singularly curious specimen of the Rusticated System of building. (*Plate* 53.)

Zucchero, having read in the Gospel of St. Matthew that our Saviour had declared that man to be wise who built his House upon a rock, resolved to act accordingly, but failing in his endeavour to find such a foundation, like Alexander the Great (who when not able to untie, satisfied himself with cutting the Gordian knot), Zucchero in like manner determined that his House, if not really placed upon, should at least appear, as if it had been cut out of a solid rock. He accordingly made the base of stone work, in figure a perfect Cube, the Grecian emblem of Solidity, and Durability, and upon this he raised a superstructure of Brick.**

The exterior of this whimsical and capricious Composition was intended not only to attract attention, but likewise to shew by practice and theory, that Zucchero was an Architect, Sculptor and a Painter. To this effect the Doors, Windows, and Pilasters were left unfinished, as indicative of his knowledge of Architecture. The pieces of Sculpture, sketched and traced on the rock, pointed him out as a Sculptor, and the finished Picture in the centre proclaimed him a Painter.

Note.*—ZUCCHERO, F. (1543-1609), best known to us as a painter of portraits, was in England 1574. He also visited Spain. Published a book at Turin 1603 and died at Ancona 1609. A typical wandering artist of the Renaissance. Ruggieri: "Studio Architectural Circle," Firenzi, 3 vols., 1755, has an elevation (78 in vol. 2) from which this diagram has been cleverly elaborated. The pilasters have been turned into columns, statues, pictured bas reliefs added and the brick upper stage shown as masonry. The drawing is very likely by Basevi. (*Editor's Note.*)

From Italy these modes of improving the Shafts of Columns and Pilasters, and the different manners of Rusticating the exterior of buildings in general, passed into other parts of Europe, and found admirers everywhere. In England, amongst other great Architects, they were sanctioned by Inigo Jones, Lord Burlington, Sir Christopher Wren, Sir John Vanbrugh, William Kent and Sir William Chambers. (*Plates* 62-74-80-81-117.)

These different modes of Decoration, however applicable to Stables and Entrance Gateways into fortified Towns, ill accord with the Simplicity of Private Buildings, the Elegance of sumptuous Mansions, and still less with the Magnificence and Splendour of Royal residences. They are melancholy proofs of the dangerous tendency of innovation without reference to First Principles.

When we re-trace our steps, and reflect on the prodigious changes the Column has undergone from its Classical Purity and Correctness, we tremble for the fate of the Ancient Orders of Architecture. Fortunately for our Art the Orders can only be obscured for a time. They are so strongly established, so firmly placed on the solid basis of Philosophy and Truth that, notwithstanding all the convulsive attacks made to obscure their beauties, they still retain their importance. Appearing as they do, not only in Ancient Ruins, but also in Modern Structures, which he is taught to respect, the Student considers the Orders of Antiquity as his Architectural Grammar, and as a sure and certain guide in the establishment of his Principles. So impressed is his mind with the power of these noble and fascinating objects that he may not suppose any Composition without them to be worthy of his attention. This, however, is an error, like many others, against which the Student cannot be too strongly guarded. It is further to be observed that neither Columns, nor the higher decorations of Sculpture, can be indiscriminately used either as to Quantity or Situation.

The gigantic Statues of children in the interior of St. Peter's lessen to the eye the real dimensions of that superb Structure. Statues like those on the exterior of St. Paul's Cathedral, from their too great magnitude, tend rather to diminish than to increase the grandeur of the building.

In like manner the Doric Screen in the front of the Admiralty, a Composition in itself light and elegant, and the Ionic Portico in the Court of the same building, altho' of large and imposing dimensions, create no interest in the mind of the beholder, because in both cases the Columns are misapplied, unconnected, and totally disproportioned to the masses they accompany.

The Ancients allowed themselves great latitude in the use of the Orders, sometimes indeed to an extent not easily to be accounted for.

In many parts of the Baths of Diocletian, Columns, instead of being applied as supports, are themselves supported on Corbels, whilst in another part of the same building, now the Church of the Chartreux, the enormous vaulted roof is supported by eight Columns of Egyptian Granite. Those in the four angles, having Corinthian Capitals, are less in diameter than those between them, which are of the Composite Order. The Entablature, however, is the same to each of the Orders, and, of course, the distinctive features of both are blended together. (*Plate* 54.)

This singular union of two different Orders Desgodetz accounts for by telling us that the Columns in the angles required less strength, having only the pressure of two Arches to bear, while those of the middle have the burden of three. If this was the cause, which, however, I much doubt, it can only be said that the Architect, by deviating from the more Ancient examples in the Temple of Peace (the mighty roof of which was likewise supported by eight Columns), in removing one imperfection, which very few indeed would have felt, has created another, which even the most negligent and superficial observer must perceive and perhaps regret.

The Hall of the Baths of Diocletian is the only Ancient example of this mixture of different Orders of Columns on the same line that I recollect. It is true that the Capitals

to the Columns of one of the Temples at Paestum partake of the singularity that they are varied from each other, whilst the other parts of the Order are the same.* Desgodetz, however, tells us, from the text of Vitruvius,** that the practice of using Columns with different Capitals, of different Magnitudes, and different Proportions, was in common use long before the time of Diocletian. In this he appears to be mistaken; Vitruvius, in no part of his Work, that I can discover, speaks of different Columns on the same line, but only when describing the Porticoes occasionally built near, and for the accommodation of the Roman Theatres, says, "These Porticoes should be double and have outwardly Doric Columns, and middle Columns either of the Ionic, or Corinthian Ordonnance, made one fifth part higher than those of the exterior."

The learned Perrault, in commenting upon this part of Vitruvius, observes that Porticoes, built according to this description, must make a most strange Composition, such as to induce him to suspect some corruption of the Text.

Perrault, it appears to me, mistook the meaning of Vitruvius. It may in the first place be observed that in the Peristyles of many of the Greek Temples, Columns of different heights, altho' not of different Orders, do frequently occur. In the Propyleum of Athens we have an example of such a Composition with an assemblage of Orders such as Vitruvius describes.

I must, however, remark that, at present, according to Stuart and also Le Roi, there are no remains of any Capital to either of the inner Columns. The proportions of the Shafts now remaining, however, correspond with the proportions of the Ionic Order, and Wheeler, who visited Greece about a Century before Le Roi and Stuart, expressly shews the roof of the Pronaos of the Propyleum supported by four beautiful Ionic Pillars (a point in which he could not easily be mistaken), whilst the external Columns are of the Doric Order.

These are some of the difficulties that arise in the use of Columns in the exterior of Buildings. When used internally there are other difficulties, many of them irreconcilable to common sense, as was pointed out in a former Lecture. (*Lecture III, page* 54.)

It has been doubted, whether the regular Orders were ever introduced into the Interior of any of the Private Structures of the Ancients, until the Decline of Taste. From the Writings of Vitruvius, from the Ruins at Herculaneum and Pompeii, from the Remains of many of the Roman Villas and other extensive Edifices, we are led, however, to believe that the Orders were, in the best times of Architecture in Greece and Italy, confined exclusively to the Exterior of Buildings. It may be presumed, for reasons assigned in a former Lecture, that the Ancients never used either of the regular Orders in the Interior of their Buildings.*

In modern Architecture Columns are frequently used in the interior as well as the exterior, and a celebrated modern writer on Architecture justifies this deviation from the Ancient practice by telling us that the origin and reason of the Guttae, Triglyphs, Metopes, Mutules, Dentils, Modiglions and similar details are remote and known to but few; if therefore deviating from what is little known and less felt will eminently contribute towards the perfection of that which

* *Note.*—This mixture of Capitals of different Orders occurs in our Gothic Cathedrals, and we justly condemn the practice.

I cannot see any beauty in such variety: it is like Mr. Price's Grecian inside and Gothic outside.

The same singularity may be observed in the Capitals of one of the Temples at Paestum: Is not this somewhat in favor of the idea maintained by some persons that Columns were kept prepared and sold complete.

** Possibly *Pausanias,* in reference to the very ancient Temple at Olympia where the old columns of wood were gradually replaced in stone and many variations occurred.—*Editor's Note.*

* *Note.*—The reason is obvious when it is recollected that according to the Primitive System of the Greeks every Order of Architecture to correspond with its origin must have its Architrave, Frieze and Cornice properly distinguished with its Guttae, its Triglyphs and Metopes, its Mutules, Dentils, and Modiglions. On the great Primitive Principle on which the Architecture of the Ancients rests, all these parts can apply only to the exterior of buildings, and therefore it may be presumed that the Ancients never used either of the Orders in the interior of their buildings.

all see and all approve, such deviation cannot, he says, be justly censured. (See Note.) This reasoning is, however, dangerous in the extreme; it will sanction every deviation from First Principles and reconcile us to every absurdity. It may perhaps content those who do not wish to take the trouble to account for what they adopt, as Vitruvius directs, but it would not have satisfied the Architects of that enlightened people, whose refined taste and consummate skill required a different proportion to be observed in the diameter of the external Columns of a Portico, because they considered that the difference in the quantity of air that surrounded the inner Columns would have made them (altho' really of the same dimensions) in appearance different. Some modern writers on the Art have ascribed this inequality to chance, or accident, instead of considering it as the result of a deep reflection on optical effects. To support this idea, they beg the question, by telling us that it might have been the Ancient practice to have Columns ready for use, as we prepare Gravestones and monuments in this Country. Such ready-made Columns, being prepared by different Workmen, occasioned, they suggest, these irregularities. This does not at all accord with the great attention paid by the Ancients to every part of their Architecture, and it is, likewise in direct opposition to the text of Vitruvius.

In buildings of every description, whether intended for Public or Private purposes, whether great or small, whether magnificent, or merely strictly useful, three things are indispensably necessary, *viz., Solidity in Construction, Convenience in Distribution*, and *Beauty in Characteristic Decoration.*

To entitle a building to consideration all these requisites must be united, for if an Edifice be commodious, but not substantial; if it be substantial but at the same time not convenient, or lastly, if it possess both solidity and convenience, and be destitute of symmetry and uniformity, it cannot claim the approbation of the judicious. Solidity, Convenience and Beauty are the three essentials of Architecture.

The Solidity of a building depends on the goodness of the Materials and their application, the sufficiency of the Foundations, and of the Walls raised upon them. All walls must be built regularly decreasing in thickness as they advance in height, and be raised truly perpendicular in every part. All the openings of every kind must be placed exactly one above the other, so that in every part solid may rest upon solid and void be seen over void, and not, as is too frequently the practice in modern constructions, with massive, solid piers over large windows and doors, and voids over solids. Lastly, an Edifice to be beautiful must be perfect in its symmetry and uniformity.

Beauty in the abstract is a general term, vague, extensive, and not always clearly defined or understood.

Beauty is either intrinsic, relative, or compounded of both. Intrinsic beauty determines certain Forms and Proportions to be beautiful, such as the Circle, the Polygon, the Square, the Parallelogram, the Cube, the

Note.—The Student, who expects to produce in his own works the same grand effect of Columns, as is seen in the Ancient buildings, must observe that even in an assemblage of those of small dimensions and formed of common materials Columns are not only highly interesting but create a strong impression of grandeur on the mind of the Spectator, because in these Works the Columns are disposed to advantage, and are duly proportioned to the masses they accompany, whilst in many of the Works, even of the great Restorers of Architecture, and in those of the Architects who succeeded them, Columns are too often introduced merely because they are beautiful, without due regard to the Situation and Character of the Structure. If, therefore, the Student, to produce the same effects as in the Works of the Ancients and to ground his pretensions to public approbation, does no more than barely copy the Orders as left us by the Ancients he will find himself egregiously mistaken. It is only by closely studying the remains of Antiquity, and the writings of Vitruvius, and by referring to those self-evident principles by which the minds of the great Artists of Antiquity were directed that he will be able to proceed with any degree of certainty. From these sources he will learn that the Orders are not applicable on every occasion, or of any dimension, as some have erroneously supposed.

The Student must not conclude that whatever is beautiful *per se* must be always so without reference to situation or dimensions. The great Masters of Antiquity will teach him that, if an Order of Architecture does not please, interest, and strike the imagination, it is because it is disproportioned in its quantity, or misplaced as to character, as when used in Prisons, Warehouses and on the inclined planes of Staircases and in many other similar misapplications.

double Cube, and others. As no object, strictly speaking, can be relatively beautiful, without reference to Use and Character, relative beauty therefore determines, amongst other things, the dimensions of doors, windows and chimneys; the length, breadth, and rise of the steps of Staircases, etc.

Intrinsic beauty combined with relative beauty produces that Symmetry and Proportion, which distinguish the Works of real Artists from those of humble Copyists. An edifice can only be considered beautiful when all its parts are in exact Proportion, well balanced and combined together with proper quantities of light and shadow; richness and repose. It must form an entire whole from whatever point it is viewed, like a group of Sculpture, and not be like some of our Houses, where one front is decorated and the other quite plain, nor like some designs, one front being Gothic, another Chinese, Egyptian, or even Grecian.

Buildings may be divided into three distinct classes :—*The Useful,* such as Cottages, small Dwelling-houses, Warehouses, Shops, Hospitals, Prisons, and the Like. *The Ornamental,* such as Temples, Garden Recesses, Alcoves, Triumphal Arches, Obelisks, Insulated Columns supporting Statues, and Vases; and *Buildings combining the Useful and the Ornamental.* Of this third class are those destined for Public Worship, Courts of Justice, Royal Palaces, Nobleman's Hotels, Town Houses, Villas, and Bridges over wide and rapid Rivers.

This great variety in the uses of buildings makes it difficult to form a correct standard in Architecture, and is one of the causes that produces that constant change in opinion and taste which occasions our Edifices, whether Public or Private, to be imitations of the Indian, Chinese, Egyptian, Grecian, Roman, or Gothic according to the fashion of the day. Whatever style, however, may be prevalent, in buildings of every kind, the most simple forms will always be best fitted and the most proper for the purposes required. Whim and caprice, attended with irregularity and singularity, may, for anything that appears to the contrary, be consistent with Indian, Chinese, and Gothic Structures. In Grecian Architecture the labour of the Artist, and the skill required in designing is infinitely greater. There must be Order and just Proportion, Intricacy with Simplicity in the component Parts, Variety in the mass, and Light and Shadow in the whole, so as to produce the varied sensations of gaiety and melancholy, of wildness, and even of surprise and wonder. Forms must be combined together with Taste, Beauty, Convenience and Solidity, producing all those different Effects, which constitute the perfection and full extent of the powers of Architectural Composition. . . . . Such is Grecian Architecture.

As the Country offers in most respects the greatest facilities, and provides more scope than populous towns for the exercise of the talents of the Architect, and for displaying the powers of his Art, it may be proper, therefore, to treat first of Villas, and such other buildings as Country Residences require.

In Villas, the first point to be considered is the situation. Situation often determines the choice of the Materials to be used, and both must fix that necessary Character and Expression of the Composition, without which no building however rich and expensive can please. The Architecture suited to unite with the quiet scenes of Claude, or Poussin, would ill accord with the grand and fearful, nay terrific imagery of Salvator Rosa.

A Villa should not be placed too near a City or Populous Town,* nor in a barren dreary desert far removed from the haunts of Men, nor amongst rocks and Mountains of dangerous and difficult approach, such as those grand romantic and wild features of

**Note.*—The situation of a Villa to be truly desirable must be where there is plenty of good water, a dry, temperate, and salubrious soil, with a certain and easy conveyance of such Articles of consumption as are not produced on the spot or in the neighbourhood. There must be a variety and beauty in the prospects, in the home domain, and highly cultivated fields, rich meadows, and distant effects in the surrounding Country.

A Villa should not be placed too near a City or populous Town so as to occasion those who occupy it to be eternally annoyed by troublesome visitors. How many of the great buildings near London and other populous Cities have been pulled down chiefly for this very reason, and amongst others, Sir Gregory Page's House, Peterborough House, and Canons.

Nature, the craggy rocks from whose dizzy summits,

> "The crows and choughs, that wing the mid-way air
> Show scarce so gross as beetles."

The frightful cliff, whose high and bending head looks fearfully on an immeasurable space of sea and air, will certainly interest the spectator and excite in his mind the most aweful sensations of the great power of the Almighty Architect of the Universe; yet, unless these sublime objects are contrasted with the gayer scenes of Nature, and enlivened with the charms of polished society, they will fail to raise that succession of pleasing and rational reflections, which are necessary to satisfy the philosophical mind in retirement.

Vitruvius, speaking of the aspects of buildings, directs that those in northern climes should have only such apertures as are absolutely necessary; that they should be of the smallest dimensions practicable, and that they should be turned to the warmest aspects, whereas, in southern regions, the openings should be large and exposed to the North and East.

To render Apartments convenient and healthy, Libraries should look to the East, and Picture Galleries to the North, Winter Dining Rooms to the West, those for Spring and Autumn to the North, and Bed Chambers towards the East. On this point, as well as many others, regard must be had to climate and local circumstances; a good living room in Egypt, might, as it has been well observed, make an excellent Wine Cellar in England.

In the general figure and outline of buildings, the most simple forms, such as the square and parallelogram, have been most frequently employed. Those geometrical figures, when well arranged and duly blended with portions of the ellipsis, the circle, or any of the polygons, admit of an almost endless variety of shape. They are the most pleasing, the most useful and most economical forms that the imagination has devised. Such combinations have many advantages over those that are more complicated, as they admit of the greatest facility in their internal sub-divisions into Rooms, Passages and Staircases. They occasion no irregularity, nor any loss of space, and, what is particularly important, the light may be equally and pleasantly distributed into every part of the Composition, as will be shown hereafter. (*Lecture VIII.*)

The surrounding scenery having determined the Architectural Character of the Villa, the particular ideas of convenience and manner of living of the individual, who is to occupy the Edifice when completed, must be consulted, for on this result, in a great degree, depends the magnitude, number, form and disposition of the several Rooms, as well as the extent of the entire Edifice.

Having advanced thus far, the attention of the Architect must be directed to form the Plans of the internal divisions, the arrangement of the several stories, and likewise of the substructions. . . . Such Elevations and Sections must likewise be made as will show the practicability and effect of every part of the building proposed to be erected.

To these designs must be added correct Models, and above all, accurate Estimates of the expense that will be incurred in the execution of the Work.

Although in the interior Distribution, as well as in the external forms of buildings in general, rectangular figures more frequently occur than any other, yet I must recommend the young Student to omit no opportunity of collecting and arranging every different form or figure, however simple or however complex, that he discovers in his reading or observation. If he looks into the great book of Nature he will find in fossils, leaves, incrustations, and other natural, or artificial, objects of every kind, many valuable materials for this purpose. The Student should likewise omit no opportunity of noting down from time to time the proportion of length, breadth, and height of as many different rooms, and entire buildings as possible, those also which, at the time, he may not consider pleasing, as well as those which appear to him beautiful.

He will thus form in his mind an inexhaustible magazine of Ideas, which cannot fail to render very material assistance to a young Architect in the course of his studies, and give him such facility as will amply repay him for his trouble.

Vitruvius, describing the Proportions of Private Buildings, says, " nothing ought to be more the care of the Architect than that the several parts of an Edifice be in exact Proportions." Living Rooms, he says, should be thus regulated, " If the length of the Room be divided into five parts, three should be given to the breadth—if the length be divided into three parts, two are to be allowed to the breadth, and when a square of equal sides is formed on the breadth and in that square a diagonal drawn, the length of the Room should be made equal to that diagonal line and whatever the breadth of any room may be, twice so much is the greatest length to be allowed."

Palladio, Scamozzi, and other great Architects have observed that there are seven beautiful Proportions and Forms of Rooms, each of them different and perceptible, namely, the Circle, the Square, the Diagonal of a square, the Square and one-third, or Sesqui tertia, the Square and half, or Sesqui altera, the Square and two-thirds, or superbi partiens tertias, and the Duplex, or double Square.

These are the different Proportions of the geometrical figures usually adopted in practice, and it may be added that among quadrangular figures, any Proportion from the square to the double square will be found useful and pleasing. These Proportions, however, can never be exceeded, for if a Room is more in length than twice its breadth, it becomes a mere Gallery or Corridor of communication. According to Palladio these Proportions are the greatest that convenience requires, and Sebastian Serlio adds, that, those Architects who are wise will not exceed these Proportions in Halls, and habitable Rooms. Perhaps it will be still safer and more prudent to stop at the sesqui altera; for in rooms wherein there is a much greater disparity between the length and the breadth than the square and a half, it becomes difficult, nay almost impossible, to accommodate the three dimensions of length, breadth and height, which it is absolutely necessary should be done.

To the simple figures already enumerated may be added an almost infinite variety of others of the most beautiful kind, such as the Ellipse, the Circle, the Triangle, the different Polygons, and likewise forms compounded of portions of some of them connected together by means of straight Lines.

In Quadrangular rooms, which admit of the introduction of Columns, we may increase the variety and movement of our Plans and at the same time combine much of the beauty of the Ellipse and the Circle, with the utility of the Parallelogram and the Square by disposing the Columns in the manner shown in these drawings.*

By a judicious combination of the different geometrical figures, and their compounds, our Plans will exhibit much elegance and classical purity with an endless variety and inexhaustible novelty.

It must at the same time be recollected that however beautiful these or any other figures may be, and however happily combined, yet as one of the great essentials of beauty, and the merit of every Plan, arises out of the fitness and convenience of the parts composing it; the young Architect must be careful that the power of intrinsic beauty does not lead him into the adoption of beautiful forms in situations where attention to convenience and locality would dictate the propriety of simple figures.**

The Ellipse and the Circle however beautiful are better suited to Public buildings and Temples than to habitable Rooms. In the early periods of the Heathen World the circular figure was assigned exclusively to Temples, and moreover to Temples only dedicated to particular Divinities, such as Vesta and Cybele, and amongst the Persians it was confined to the Temples erected to the God of Fire only.

In later times the Circular figure became general in the Mausolea and Public Buildings of the Romans, as well as in their great Private Works, as may be seen in the remains

* Design at Rome (1778-9) for the Bishop of Derry, " The Works of Sir John Soane," 1924, page 7.

** *Note.*—In the arrangement of a Plan, variety and beauty of form is not sufficient, convenience, and fitness must likewise be conspicuous.

of the Villas of Hadrian, and Lucullus, and others.

It must be recollected that the Climate of Italy and the manners of the Romans made them prefer rooms lighted from above, as producing that repose, and as if it were half-tint, which in warm Climates is peculiarly pleasant. This kind of light is well suited to study and reflection, but is not calculated for living Rooms in a Northern Climate.

Altho' these figures, however beautiful in themselves, cannot be properly applied to Rooms for habitation, yet in extensive magnificent Houses, opportunities will occur of introducing them with great propriety, advantage to the general effect, and even to the convenience of the whole arrangement; particularly in the case of Vestibules, Tribunes, Staircases and Saloons. In Rooms for these purposes there is no reason against lighting them from above through apertures in the ceiling, as in the Oval Saloon at Stowe, the Rotunda at Keddleston, and the Octagonal Tribune at Chiswick. In these parts of a large Building, the young Architect may exercise his ingenuity, taste and talents, he may use his inventive faculties, indulge his love of variety, and show his knowledge of the Ancient Architecture, provided the forms he selects and the dimensions he adopts harmonize and contrast with the other parts of his Plan and are fitted for the purposes for which they are destined. Neither the Ellipse, the Circle or Polygon, circumscribed as in these examples, and used without Parallelograms or Squares, can ever be considered as suitable for habitable Rooms, excluded from all prospect. Lighted only from above they can only produce a gloomy and sombre effect and can only be considered as suitable to the grandeur of extensive Mansions. (*See Plates* 49-63-68-115.)

If the Ellipse, the Circle, or any of the Polygons, are to be applied to the purposes of Living Rooms, a portion of each of these figures must be made to project beyond the general outline of the External Walls in which they are introduced. This projection, altho' it may in some degree destroy the architectural effect, increases the variety of the outline, adds to the richness of the Perspective, and at the same time occasions the light to be more equally diffused into every part of the room.

By a due admixture of these latter forms with the Parallelogram and Square we shall avoid that excess of Simplicity, or rather tameness, so manifest in some of the Designs of Palladio, Scamozzi, and other their contemporaries, who, in order to produce a due balance of parts and a proper Simplicity, have sometimes adopted a needless and studied Uniformity, injurious to convenience and monotonous in effect.

In this attention to an excess of Uniformity these great Artists have been frequently followed by Inigo Jones, Lord Burlington and others, forgetting that it is not necessary that in the two equal divisions of a Plan, each half should exactly correspond. This is a species of regularity as insipid, and tiresome as that of a Garden wherein,

> "Grove nods at Grove, each Alley has a brother,
> And half the Platform, just reflects the other."
>
> Pope. Moral Essay.
> P. 281.

Although it may be right to avoid this scrupulous attention to Uniformity in Plans, yet too much Variety of Figure is perhaps less worthy of imitation. The young Architect must be careful that in avoiding one error he does not fall into another. He must remember that in the internal Distribution and Divisions of Buildings there should be a Gradation in the dimensions, and a Variety in the Forms of the Rooms, from the Hall of Entrance * to the Lady's Boudoir, each part should be distinctly

* *Note.*—In many of the old Houses, particularly in those of Inigo Jones, and his Scholars, there is a large Hall occupying Two Storeys in height. This, altho' a magnificent feature in itself, generally raises our expectations beyond what the other parts of the house can realise. What is worse it likewise destroys the convenience of the Chamber Storey. If magnificence requires a large portion of the entire superficies of the building to be swallowed up by a single room, it should be for the purposes of Society, and not as a mere passage Room of Entrance. It must be remembered that such a room destroys that regular gradation of space, that continuity of interest, an essential to be observed in the Ground Plan of a building, as in the exterior appearance. It is likewise injurious and lessens the more permanent and desirable comforts which constitute the charms of an English House, and is therefore never to be adopted but from positive necessity.

marked by Quantity, Proportion, and progressive Enrichment.

In the general combination of the Plans of Buildings of every kind the Artist will receive most effectual and powerful assistance from the knowledge to be obtained from the remains of the Baths of Titus, Caracalla, Diocletian, and Paulus Emilius. From the parts still in existence of the Villas of Hadrian and Lucullus, and others in different parts of Italy. The works of the great Painter Architects of the Fifteenth and Sixteenth Centuries will be likewise of much value.

In them will be found rich mines of information which enlighten the mind of the young Artist, and add materially to his stores of intellectual acquirement. From these sources he will learn to compare and to combine, he will discover the safest as well as the surest tests of Truth, and he will perceive the just and nice Proportion that must be maintained between solids and voids. He will learn to appreciate that Succession and Variety of Forms, that contrast of Balance and Movement in the different parts of a Composition on which Distinctive Character so much depends. The terrific boldness of Michael Angelo, the luxuriance and rich fancy of Michele, and the extravagance of Boromini, will be corrected and duly tempered by the quietness and elegant simplicity of Palladio and Vignola.

The young Artists of the present day have many facilities in attaining knowledge over those who preceded them: the road to fame is open to all,

> ". . . . . take the instant way,
> For honour travels in a strait so narrow
> Where one but goes abreast; keep then the path,
> For emulation hath a thousand sons,
> That one by one pursue: if you give way
> Or edge aside from the direct path right,
> Like to an enter'd tide, they all rush by
> And leave you hinder most;
> Or like a gallant Horse, fall'n in first rank
> Lie there for pavement to the abject rear
> O'er run and trampled on."

The young Artists by exerting themselves to store their minds with the beauties and splendid effects of the magnificent Works of the Ancients will be enabled to rescue the Art from the hands of ignorant Mechanics, and speculative Theorists. Henceforward let us hope that the young Professors of the Fine Arts, instead of employing their cultivated talents and highly fraught intellectual minds on Portfolio drawings will be called upon to erect Churches, Palaces, and National Edifices commemorative of the glorious achievements of our Nelsons and Wellingtons. (*Plate* 55.) May the genius of Banks, Flaxman, Nollekens, Chantrey, and other great Sculptors of the age, be infused into the minds of the young Aspirants in that noble Art. Taught by such examples may their talents animate the marble so powerfully and so effectually with the features and minds of our Heroes and Statesmen, that admiring spectators may exclaim,

> "Would you not deem it breath'd and that those veins,
> Did verily bear blood."

and—

> "if towering Architecture still
> Can boast her old creative skill.
> Let great majestic Structures rise to view
> Worthy them and worthy you."

In this Country various causes co-operate to prevent the erection of great National Works. We must not expect to raise many large Churches worthy of our Religion, (*Plates* 56-57) nor Monuments, Trophies, and Cenotaphs, to the dead; nor a variety of magnificent Palaces for the living. Whilst our Painters and Sculptors are recording on the almost speaking Canvas, and in the "breathing Marble," the splendid achievements of our illustrious Men, and the glorious transcendent exploits of our Heroes by Sea and Land; let us hope, the magic powers of Architecture will be called into action to raise Structures for Use, and Maintenance, in grandeur and extent, commensurate with the National Glory and Character, and such as may vie with the proudest Monuments of our Art. No longer let Foreigners reproach us with the total want of great National Monuments; let us, in this respect, imitate our Gallic neighbours, let us look at their Pantheon, an edifice dedicated exclusively to the honor of great men. (*Plates* 58-59.) This superb Fane, calcu-

lated to immortalize the memory of its Architect, Soufflot,* will ever be ranked amongst the finest specimens of modern Art that Europe can boast. In the Portico and in the Interior of this superb structure the classical elegance and refined graces of Grecian Architecture are united with all the intricacy, variety, and pleasing effects of the finest examples of our Gothic Cathedrals.

The erection of a few such Buildings in this Country, altho' they would not call forth the exertions of every Artist, would, nevertheless revive the drooping spirits, and give new energies to all the votaries of Architecture, and, from our natural love of improvement it would soon raise the Art to its Ancient glory. Let not the young Architects be dismayed and despair of success because all of them cannot have the control and direction of great National or great Private Works, rather let them feel proud of a Profession, wherein a man of genius and superior intellect will create an interest, display as much talent, and show the powers of his Art as effectually in small buildings, even in confined situations, as in works of great magnificence and expense.

The British Coffee House at Charing Cross (*Plate* 60) shows more novelty and fancy and does as much honour to the memory of Robert Adam as the great structure he raised to contain the Public Records of Scotland. The small building called York Stairs likewise shows what can be effected by genius and taste in works of limited extent, and will add more to the fame of Inigo Jones than will the immense Triumphal Arch of L'Etoile at Paris to that of its Architect, even when finished with all its intended magnificence.**

That every Architect cannot be employed on great Works is no proper subject for regret. When, however, the young Architect sees that the immense sums, that have been voted by Parliament to commemorate Heroic deeds, have been almost exclusively devoted to Sculpture, he, as well as the Lovers and Professors of Architecture in general must be dismayed. It is from this circumstance, and from judging the state of our Architecture from the miserable abortions of Speculation, and above all, from the want of Public Buildings, that Foreigners in general, and many of our own Connoisseurs, have concluded that Architecture, in this Country, is an Art little understood and less felt. They conclude that Architecture is merely competent to provide convenient dwellings, but is incapable of producing any great effects, and is therefore very inferior to the other Arts in its powers to interest the mind. Let us hope that this feeling is not correct.

Painters and Sculptors have generally the originals before them of what they are required to do; even if ideal beauty is to be represented it is collected from a variety of sources and objects, all of them to a certain degree, or extent, in existence. Thus Painting and Sculpture, with all the mighty and justly admired powers they possess, are Arts chiefly of Imitation, but Architecture is an Art purely of Invention, and Invention is the most painful and the most difficult exercise of the human mind.

The Sister Arts, altho' often employed on subjects of high intellectual interest, are sometimes engaged on objects of luxury, or pleasure, but Architecture is the child of necessity, and the parent of general utility. It has therefore in all ages and in all Countries particularly interested every class of men, the most humble and the most exalted of mankind; Kings, Heroes, and private individuals have all, to a certain degree, cultivated this noble Art, and acknowledged its superior influence; its great utility, and its manifold benefits to Society. If the possession of one single Picture by Protagenes stopped the career of the Conqueror and

* *J. G. Soufflot* (1709-1780).—1st stone of Pantheon laid 1764. Napoleon, when deciding the design of the Madeleine, referred to the cost and dangerous condition of the Pantheon. The Dome (69 feet diam.) was saved by Rondelet (Soufflot's pupil), who closed up the piers. The area of support is the least of all domed churches and rivals the Gothic Cathedrals.—*Editor's Note.*

** Soane is referring to the original design of this Arch and not to that subsequently erected and now so well known.—*Editor's Note.*

saved the Rhodians and their City from destruction, Architecture did as much for Athens, and for Pericles. When accused of lavishing the Public Treasures in erecting splendid Public Monuments he boldy defended himself, and satisfied the Athenians of the policy and wisdom of his conduct. Pointing out that the utility and great national advantage of such undertakings were greater than the glory that accrued to the Athenians from the possession of the finest Works of Art in Painting and Sculpture.

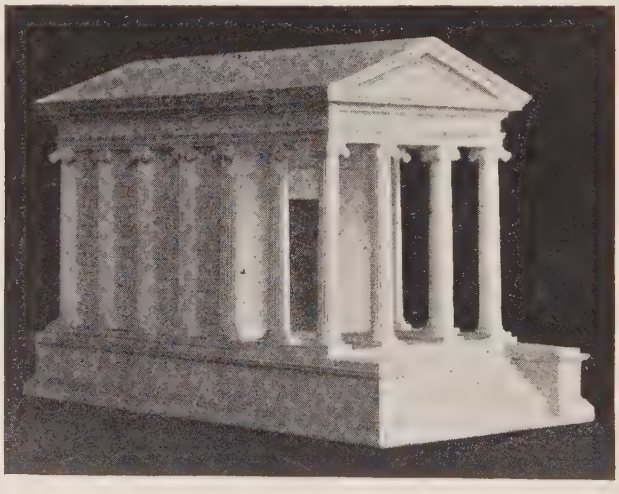
Passing from Plutarch to the Sacred Writings we learn that whilst the Sister Arts of Design were prohibited by Divine command, and the making "the likeness of any thing in the Heavens above or in the Earth beneath" forbidden, Architecture was encouraged. Noah was commanded by the Creator of the Universe himself to build an Ark, of such enormous vastness and difficulty of execution as leaves us in silent admiration of the extraordinary power by which it was finally completed, and ultimately proved the means of preservation to all animated Nature.

Noah likewise immediately after the Flood, was directed to raise an Altar to commemorate that great event; and such was the high estimation in which our Art was held in those early periods of the World that Bezaleel and Aholiab, two of the most ancient Artists mentioned in Holy Writ, are there said to be endowed by the great Creator of the Universe himself with all kinds of knowledge useful to Mankind. In like manner we are told, from the same high authority, that in succeeding ages, King David, and his son Solomon did nothing in the construction of the Holy City of Jerusalem, or in the building of the Temple therein, but in conformity with those ideas which the Almighty Creator himself was pleased to reveal unto them.

If we consult profane History we shall learn that Ctesiphon, when building at Ephesus the magnificent Temple of Diana, was supposed to have been assisted in the construction of that stupendous Work by more than mortal intelligence.

Thus much for the powers, and importance of Architecture, and for the respect in which it has been held. As to its Antiquity, that is to be traced to the earliest period of recorded time. It was not only the first born of the Sister Arts, but it boasts an origin almost Divine and, when aided by the powers of Painting and Sculpture, it becomes irresistible in its effects. Well has Sir Henry Wotton observed, that "Architecture can never want recommendation, wherever there are noble men, and noble minds." I conclude by saying that I think it must be admitted that, amongst all the Arts of useful and elegant refinement, Architecture, whenever and wherever its Laws and Principles are well understood and truly observed, must always stand Pre-eminent.

END OF LECTURE VII.



Temple Fortuna Virilis, Rome

LECTURES ON ARCHITECTURE

By Sir John Soane, r.a.

LECTURE VIII.—INTERNAL ARRANGEMENT, ROOMS, STAIRCASES, Etc.

Mr. President,—If in these Discourses on Architecture, a subject, as many suppose, exhausted, I venture to trespass on your patience, and on that of the Members of the Institution who occasionally attend from a sense of duty, and as an example to the young Students, I hope to stand excused from a due consideration of the importance of Architecture from a political and moral point of view, and likewise from the duty I am called on to perform towards my young Friends, the Students in Architecture.

From the remains of the great Works of Greece and Italy, once the glory of Athens and the boast of Imperial Rome, the Students in Architecture must form their Principles of sound Construction and Classical Taste. To build for an eternal duration was the great object, and true wisdom of the early Nations.

Among the Egyptians, the Greeks, and the Romans, this glorious Principle was carried out to an almost incredible extent. On this Principle, regardless of expense and difficulties of every kind, the great Works of remote Antiquity were raised. With this feeling for Eternity the Pyramids of Egypt were constructed, those stupendous monuments of human perseverance, calculated to defy the ravages of all devouring time and the convulsions of Empires till that period shall arrive, when

> "The cloud-cap't Towers,—the gorgeous Palaces,
> The solemn Temples, the great Globe itself,
> Yea all which it inherit shall dissolve
> And like the base-less fabric of a vision,
> Leave not a rack behind."

The Ancients, in order to render their Works eternal, were not satisfied with using immense blocks of granite and marble; entire buildings were sometimes formed of a single stone.

Amasis, King of Egypt, formed an Edifice measuring, on the outside, Twenty one Cubits in length, Fourteen in width, and Eight in height, of one single stone, and a fact which increases our admiration is that this mighty mass was conveyed to a distance of twenty days journey.

The Mausoleum at Ravenna of Theodoric, King of the Visigoths, is crowned by a dome of one entire piece of granite, thirty feet in diameter.

The immense Obelisks, the Columns of the Pantheon, and many other shafts now existing in Rome are of single blocks of granite, or marble, brought with incredible labour and difficulty from quarries in Egypt and other remote places.

To this class of Construction may be added the Historical Columns of the Ancients, particularly that noble Monument erected in the Forum of Trajan; the whole formed out of immense blocks of Marble, with a Staircase worked out of the solid mass.

Such were the Principles on which these and other Ancient buildings were constructed, wherein Symmetry, Continuity, and Character pervaded even the most minute parts, forming (like a statue, or group of sculpture) one entire and consistent whole, so that, if any part of the structure escaped destruction, the Destination and Character of the work, when in its perfect state, could be satisfactorily ascertained. Let me add that the merit of a building is very questionable unless, when looking at it as in the case of a Statue, we are sensible that all the parts unite and form an entire whole. When that is the case, all that can be expected from the Artist has been attained. If these invariable Principles of the Greeks and Romans, which apply to Painting, Sculpture, Music, and

Poetry, as well as to Architecture, be correct, how can we tolerate such capricious deviations from them as were particularly noticed in the three distinct styles of whimsical Composition described in a former Lecture (V).

Architecture must be considered under two distinct heads; the Utile and the Dulce; these can never be separated, for if the exterior be neglected, or the interior does not keep pace in Character and Importance with the exterior, the judgment and taste of the Architect will be rightly called question.

It is not sufficient that all the parts of the exterior shall harmonize with each other, and be well combined as a whole, for the interest created from viewing the exterior must be carried on and gradated throughout the entire work, as has been already noticed.

It is from the great stores still existing of Grecian Architecture that the Student must form his Taste, and by exploring the "Urbis Eternae Vestigia," he will be materially assisted in acquiring correct ideas of solid Construction.

These are the objects our young Artists should have in view in visiting the Classical Shores of Greece and Italy, where by close study and application they will learn to infuse into their own Compositions all the gay dreams of early fancy acquired from those true sources of knowledge. This indeed their portfolios amply testify, and that there is no deficiency of native talent and powerful genius in the young Artists of Great Britain, our Annual Exhibitions, and the Designs offered for the Premiums have frequently shown. Our young Architects, having formed their Taste on the Classical Remains of Greece and Italy, only want Patrons to call forth the exertion of their Talents. Seldom does it happen that the Artist is allowed the free exercise of his Taste, beyond the Decoration of the centre of his Design with four small Columns surmounted with a Pediment. More frequently he is restricted to a Porch of two Columns, or to mutilated Statues employed in supporting a terraced Roof. In many of the great Mansions, erected for the residences of noble families, the centre of the entrance front is distinguished by three-quarter, or semi-Columns, finished with a Pediment, or alternatively with Pilasters and other less important Decorations, whilst the other fronts are left quite destitute of any corresponding Character. Buildings formed of such heterogeneous parts are irreconcilable with the true Principles of Architecture.

Thus the noble ardour, and the finer feelings of the Artist are too often repressed, smothered, and paralysed, by the chilling parsimony, ill-judged economy, or bad taste of his employer. Oh, Architecture! Once the mightiest among the mighty, Architecture, thou lovely Queen of the Fine Arts, how art thou fallen since the days of Pericles and Augustus!

In the former Lectures I endeavoured to give such a series of observations on building for domestic purposes as appeared to me to be most useful. The Students were likewise directed as to the proper choice of situations for Houses in the Country. The Figures, and Proportions of Rooms, best suited to such Buildings were enumerated, and their application shown from various Works by the best Masters.

Previously to the Student being led to the consideration of the application of Forms and Proportions in general, and to their use in the detailed combinations of buildings, as Lengths and Breadths have been noticed, Heights must now be considered. The Form and Proportion of Windows, Doors and Chimnies will necessarily follow.

The Heights of Rooms depend on Climate, the Character of the building, and the use to which they are destined. Regard must likewise be paid to the manner in which the interiors are to be finished.

If in fixing the proper Heights of Rooms Convenience were the only object to be attended to, ten or twelve feet, in rooms of moderate dimensions, would be sufficient for every useful purpose, but, when Elegance and Magnificence are consulted, the Height of a square room with a flat ceiling is usually not less than four-fifths of its breadth, nor more than five-sixths. If the ceiling of such

a room be coved, the Height should be equal to one side of the square.

In a room, the Length of which exceeds its Breadth, the Height should be equal to the latter dimension, and if the Room be one-third, or one-half, more than its width, the two dimensions should be added together and half the total allowed for the Height. If the Room be coved, one-fourth, or one-fifth more must be allowed.

Galleries are generally made one-fourth higher than their Breadth, and, when the Height is increased to once and-a-half the Width, the disparity in Length and Breadth will be less conspicuous, and at the same time the Convenience and Beauty increased.

For Rooms of moderate dimensions the Cube will on most occasions be found the most pleasing figure, and for many ages it was a received opinion that a Room, formed of a double Cube was of the most perfect Proportion that could be devised. This applies only to Rooms of certain dimensions; such as the Banqueting House at Whitehall, which is one hundred and ten feet Long, fifty-five feet Wide, and fifty-five feet High. The great Eating Room at Wilton House is sixty feet Long, thirty feet Wide and thirty feet High. (*Plate* 61.)

On Rooms of these, or nearly similar dimensions, the best informed mind in art, dwells with delight; the most correct eye is pleased with the Proportion; there is a powerful charm that never fails to excite approbation. The sensation would be very different on entering a Room, or rather Passage, of half those dimensions, namely, thirty feet long, fifteen feet wide, and fifteen feet high: the reason is obvious, the eye more easily compares the disparity between the Length and Width.

Rooms formed either of the Cube, or of the double Cube, or of any other figure, can neither be pleasing nor convenient unless the Chimnies, Windows and Doors are properly placed, duly proportioned, and of dimensions adapted to the uses to which the Rooms are destined.

Due consideration must likewise be given to the general Extent and Character of the whole Building, so that the precise dimensions of each of the component parts of the Structure may be regulated by the strictest rules of Symmetry.

Our obligations to the Ancients are on most occasions very great, but there are some points, particularly appertaining to Private Houses, on which we can derive little, or no useful information from the remains of Ancient Buildings, or from the precepts of Vitruvius. Perhaps in no part of our Art is there so little to be learnt from them as in respect of the due Warming and Lighting of Rooms.

The Climates of Greece and Italy rendered fires less necessary than they are in ours: Vitruvius, Pliny, Varro, and Columella, all speak of the great care taken in planning their Triclinea, Cubicula, and other habitable Rooms to face such aspects that, from the rays of the Sun darting into every part of them, these Apartments might be sufficiently warmed.

Seneca tells us that even this mode of warming Rooms (if it can be so called) was a luxury unattended to in the early times of the Romans. In describing the retirement of Scipio Africanus at Linternus, the Philosopher laments the degeneracy of the age, contrasting the simplicity of that building with those of his own times. He remarks with severity that formerly Windows, or rather slits, were made to introduce light only, without injury to the solidity of the building, whereas, now, continues Seneca, we should think ourselves in a dungeon, if the Windows in our rooms were not sufficiently large, and so disposed as to admit the Sun into them every hour in the day.

The Ancient Writers speak of the Heliocaminus as a favourite mode of warming their Rooms, and, according to Piranesi, there is an example thereof amongst the remains of Hadrian's Villa at Tivoli.

This mode of warming Rooms might suit hot climates, and Ancient customs, but in England it is not sufficient that our Houses are well warmed, we must see the Fire, or no degree of heat will satisfy us.

With respect to Fires in open Chimnies, such as are now used, the Ancients afford us little or no useful information. Whilst Blondel and Salmathius contend that open Chimnies were unknown to the Greeks and Romans, Pancirolus and other writers maintain a contrary opinion. From all that is now to be collected on the subject, altho' it may be justly doubted whether open Chimnies were ever in general use, in early times, it is certain, from the testimony of Suetonius, Horace, and Cicero, that they were occasionally used in the living Rooms of the Ancients. Vitruvius likewise, in describing the manner of decorating different Apartments, directs that in those wherein Fires are to be made in open Chimnies, the Cornices of the Rooms should be made without any enrichments, so that they might be less injured by the smoke from the Chimnies.

At Baiae, near Naples, were found the remains of an ancient Chimney, placed in the middle of the Room with four Columns supporting a Pyramidal top, but I do not remember to have seen among the ruins of Ancient Structures any vestige of an open Chimney in the thickness of the Walls, as is the present custom. From the frequent recurrence of Flues to convey heat from the Hypocaustum into the habitable Rooms of the Ancients, it is reasonable to conclude that the Greeks and Romans were less anxious than ourselves to have the appearance of Fire, provided they had the comfort of warmth.

In Russia, Germany, and France close Stoves, elegant in form and rich in decoration, are chiefly used in large rooms, in preference to open Chimnies, as giving a more certain and regular heat.

In this Country before Coals were known Wood was burned on Dogs, placed on the hearth: this was succeeded by open Grates for burning Wood and Coals, or Coals only. Some years past a close Stove called the Pensilvanian Stove, an invention of Dr. Franklin, was much used. This Stove, from the celebrity of Dr. Franklin, attracted particular attention and it had many desirable qualities. It prevented the Smoke from forcing its way into the Room, and increased, by the medium of rarefied air, the warmth and temperature of the internal atmosphere, to a greater degree than any other mode that had had been practised prior to that period.*

Besides these modes of warming Rooms, from the labours and talents of Messrs. Boulton, Watt, and others, Steam has been most usefully and successfully applied, not only in our Manufactories, but likewise for the warming of Apartments of different magnitudes. Perhaps for Halls, Galleries, Corridors and such like parts of our Houses, no mode yet discovered has been more safe, economical, or better adapted for the purpose, altho' no method is more dangerous, expensive, or ineffectual, than Steam, when improperly used by ignorant persons.

The general application of Steam to useful purposes has unquestionably been the work of the present age, but that its powers were not unknown to the Ancients, the following incident will prove.

Anthemius, the Architect of the Church of Sta. Sophia, had a dispute with his neighbour Zeno, relative to the Walls, or Windows of their contiguous Houses. Anthemius, being unsuccessful in this dispute, retaliated on his antagonist by placing in a lower room of his own House several vessels filled with Water, each of them covered by a tube of leather, which, being made wide at the bottom and gradually diminished to a narrow tube at the top, was artfully conveyed amongst the joists and rafters of the adjacent buildings. A fire being then kindled beneath the Cauldron, the steam of the boiling water ascended through Zeno's house, which was shaken by the efforts of the imprisoned air, producing all the alarm attendant on an earthquake.

A much more simple and perhaps equally effectual mode of warming buildings, wherein open fires can be dispensed with, is that which has been introduced within these last few years, by means of heated water. This method may be so applied that the various rooms in Public Buildings and Private

*At the Bank, the Stock and other Offices were at first warmed by large stoves.—*Editor's Note.*

dwellings, Hot Houses, Green houses, and such like Structures, may be heated so as to produce any general temperature that may be required.*

The due, and equably warming of rooms in cold climates is, it must be admitted, of great importance to the health and comfort of the inhabitants of every dwelling, from the Cottage of the Servant to the Palace of the Sovereign. So necessary is warmth to existence that we cannot be surprised at the various inventions that have been produced for the better and more economical warming of our Houses.

The effectual distribution of warmth is very much assisted by the relative situation of the Chimnies with respect to the Doors and Windows. . . . The Italians frequently place their Chimnies between two Windows, a mode which has been followed by Lord Burlington in his celebrated Villa at Chiswick, as well as by others; but this disposition of the Chimnies should never be made except in very large rooms.

In Sweden and Muscovy the Chimnies are often made round in front and are very commonly placed in a corner or angle of the room; altho' this arrangement deviates from strict Regularity yet it throws out the heat more equally and admits of great Variety in the Decoration.

Chimnies thus placed, in the angles of Rooms, were formerly very general in England,** but they are now seldom constructed in this manner except from necessity.

In Venice the Chimnies are very frequently placed in the external Walls with projections on the exterior surface, of sufficient thickness to contain the Funnels. These projections on the outside appear like so many buttresses, and generally produce a clumsy and bad effect, altho' if properly treated they might be made highly ornamental. Examples of this Venetian practice may be seen in the exterior of some of the old English Houses. The placing of the Chimnies in the external Walls often contributes very much indeed to the convenience and comfort of the interior, altho' it creates difficulties in Houses having pointed roofs.

At Coleshill in Berkshire the Artist may see an example of Chimnies thus disposed, in which our great Architect, Inigo Jones,* has so judiciously arranged the Shafts that he has created a Beauty out of parts, which in inferior hands always produce Deformity.

Two other admirable examples of this manner of applying Chimney shafts may be noticed, viz., at Wotton House, the seat of the Marquess of Chandos, and Buckingham House, formerly the Queen's Palace, which has recently been taken down.

Scamozzi describes three different modes of forming the Apertures of Chimnies, namely, the Roman, the Lombard, and the French. . . . The Roman Chimney is that which is contained entirely within the thickness of the Walls; the Lombard Chimney has part of its depth in the thickness of the Wall and the remainder projecting into the Room; the French Chimney, has usually, according to Blondel, a projection or breast into the room beyond the general line of the Wall, sufficient to contain the entire funnel.

The Apertures of Chimnies, in their plans, should not be made rectangular as they usually are in our buildings, but they should be formed of regular or irregular semi-hexagons, as is the almost universal practice at Turin and in other places on the Continent. The Apertures should be of such dimensions as to admit Grates, or Stoves, sufficiently large to contain a proper quantity of fuel to warm the Apartment completely. The funnel, or tube to carry off the smoke, is another necessary part to be particularly attended to, so that no sudden check in its construction, nor any irregular current of air, may divert the passage of the smoke out of its proper direction, and force a portion of it into the room.

It was formerly very much the practice in this Country to make the flues of Chimnies in

* Perkins' high pressure system, still in use, at Sir John Soane's Museum. See C. J. Richardson on "Warming and Ventilation," in Weale's Series.—*Editor's Note.*

** As at Hampton Court Palace (1688-94) where Evelyn objects to them as a new fashion.—*Editor's Note.*

* Carried out by Sir Roger Pratt, Inigo Jones' pupil. —*Editor's Note.*

the different Stories one before the other, and to continue them upwards in straight lines. This caused a very considerable, and inconvenient projection into the room, which led to the practice, now almost general in this Country, of making them pass in oblique directions by the side of each other.

Palladio also speaks of the flues of Chimnies made in oblique directions, so that the smoke, being driven upwards by the flame and heat of the fire, was by the sinuosity of the funnel prevented from returning back into the room. Latterly the idea of twisting the flues of Chimnies has been treated somewhat ludicrously; yet it is right in principle, however unpleasing it may be in appearance.*

Having thus disposed of Chimnies we now come to Windows . . . Windows are considered by Scamozzi, of as much importance in a building as the eyes to the animal, and it may be added that the equal Distribution of Light is as necessary to the comfort and convenience of an Apartment as the equal distribution of Warmth. Windows therefore require a great degree of attention as to Situation, Form, Magnitude, and Proportion.

Vitruvius is not silent on the subject of Windows, yet as he is rather considering the light suited for Temples, we shall, on this point, gain but little useful information from his writings.

Palladio, Scamozzi, Philibert de Lorme, and many other great Architects, have given their different opinions on the Forms and Proportions of Windows, but, as Windows must be of dimensions suitable to the particular Climate in which we are to build, and as the observations of those great Men referred to a warmer Climate than ours, their directions will be of little avail to us.

It may be noticed that Windows in the Ancient Temples, and in most of the sumptuous Palaces and Villas of Italy are usually very small in proportion to the magnitude of the spaces they light. They are likewise placed at such a distance from the floor as to impede the sight when sitting and in many cases to materially obstruct the due circulation of the air. Examples by these great Architects have nevertheless been generally followed as by Inigo Jones, Lord Burlington, and others.

The French mode of lighting Rooms with Windows down to the Floor, has of late been frequently adopted in this Country and certainly produces a cheerful effect. Our Windows are likewise now made of larger dimensions than they were formerly, and, being constructed so as to open in the middle, the general effect is much improved; more light and air is admitted thereby, and a more habitable appearance is given to the Apartment.

Rooms are sometimes lighted by two tiers of Windows, as in the Banqueting House at Whitehall, but this mode should be adopted with caution. (*Plate* 62.)

In Galleries, and extensive Rooms with large Cornices and coved Ceilings, light is often introduced very advantageously above the Cornice, so that the Window is not seen from below: by this contrivance a pleasing kind of demi-tint is thrown over the whole surface of the Ceiling. (*Plate* 63.)

The Architect will do well to examine and reflect on the different modes adopted by Painters of introducing light into their Studios. The "lumiere mysterieuse," so successfully practised by the French Artist, is a most powerful agent in the hands of a man of genius, and its power cannot be too fully understood, nor too highly appreciated. It is however little attended to in our Architecture, and for this obvious reason, that we do not sufficiently feel the importance of Character in our buildings, to which the mode of admitting light contributes in no small degree. (*Pantheon Paris Plates* 58-59.)

Windows are, in general either rectangular, circular, or compounded of both these figures. The openings are seldom made higher than twice their width, frequently considerably less. The Ancients often made their Windows similar to their doors, narrower at the top than at the bottom, as in the little Temple at Tivoli, and

* *i.e.*, oversailing first on one side and then on the other in the visible part above the roof. This can be seen in old Regency houses.—*Editor's Note.*

in the Temple of Erectheus at Athens. . . . In this peculiarity, in some instances, they have been followed by succeeding Architects, yet generally in Modern Works Windows are made with parallel sides, and with either straight or circular heads.

There is likewise what is termed the Dioclesian Window, which deserves the attention of the Artist. Besides Windows of these different Forms and Proportions there are many others, whereof those denominated Rusticated, Palladian, and Venetian are the most useful, and are frequently introduced into Modern Works.

Rusticated Windows and doors were much used in the last century. This kind of Decoration can only assimilate with those works wherein the Orders of Architecture are omitted, or at least they never should be used with other than the Tuscan Order. With the Corinthian, as in the front of St. Martin's Church, they produce a very bad effect, as will be more particularly noticed hereafter. (*Lecture XI, page* 176.)

The Palladian Window (*Plates* 73-76), altho' more applicable with the Orders than the preceding, is nevertheless deficient in that necessary Elegance, which is required with whatever accompanies either of the Orders of Architecture.

Venetian Windows (*Plates* 73-104) are extremely beautiful when a series of them occur in the same front. There existed some years ago a pleasing example of this by Mr. Paine in the front next the Park, of the late Sir M. Featherstone's House at Whitehall (now the residence of Lord Dover), which every lover of Architecture must regret has since been mutilated.*

Scamozzi and other Architects have frequently marked the centre of a building with one of these Venetian Windows, but this practice, however sanctioned by great examples, is too incompatible with the great Principles of Architecture to be tolerated.

Palladio has availed himself very successfully of the beautiful and elegant figure of the Venetian Window in the Basilica at Vicenza. There is a peculiar degree of gaiety and cheerfulness in this kind of Composition, admirably adapted to the exterior of Theatres, far preferable to the style generally adopted in such structures, contrary to the Principles of Vitruvius. (*Plate* 116, *refer also to Plate* 28.)

The Doors in the interior of every building are important features, and, like Chimnies and Windows, much of the Magnificence and Convenience of the Apartments depend on their Situation and due Proportion.

In all the Remains of Antiquity the lintols of the Doorways are square, altho' in Modern Works they are frequently circular. The dimensions of Doors must be determined by the Magnitude of the Rooms to which they give entrance, but single Doors, whatever their Width, should never be less than two widths in Height. Folding Doors, however wide, should not in any situation be much less, for if a Room be too low to admit of those Proportions, the Width of the Door should be lessened accordingly. This is the constant practice of the French Architects, from whom we have borrowed the idea of large Folding Doors. . . . The modern fashion consists of making very wide Folding Doors, frequently six, or seven feet in Width, in Rooms that will not allow them to be more than seven, or eight feet at most, in Height. . . . This is extremely offensive to the eye, however much custom may induce us to tolerate such Proportions.

The different parts of Internal Distribution, to be in good Proportion and proper Combination, require from the Artist a thorough knowledge of whatever relates to Convenience, Economy, and Beauty. An arrangement of Rooms congenial to one situation, and suitable to one man's habits of living, will have a totally different Effect in other situations and with other men.

On the subject of Internal Distribution, and the proper Arrangement and Combination of the various and complicated parts of the Plans of Buildings, the Young Architect will gain much information from the Works of the French Artists. In their Houses Convenience and Effect are never neglected, altho' they sometimes fail in preserving the

* The Verandah has since been removed.—*Editor's Note.*

Character and Gradation of Richness, between internal and external Decoration. This is, however, essentially requisite; the same feeling that is produced by the first sight of a building, should be preserved even in the inferior Offices; nay the Furniture itself should partake of the Decorative Character of the building. It may be remembered that the late Messrs. Adam generally gave Designs for the Furniture of the principal Rooms of those Houses that were constructed under their direction.

From a want of attention to Character, and to this feeling for Propriety, the Ferme Ornée, the Cottage and the Hermitage, instead of being confined to retired situations, are sometimes placed contiguous to the approaches into great Cities. Instead of being composed of two, or three Rooms of moderate dimensions, as their titles import, they often form large buildings. Their external elevations likewise, instead of being distinguished by uniform Simplicity, or even Rusticity, are frequently plastered to resemble the most delicate stone. A Portico in the centre protects a fine mahogany door and sash window, and the interior is completed in the most finished style, with the most elegant, fashionable and expensive furniture of every kind. Lastly, that such structures should not be mistaken, or passed unnoticed, letters conspicuously large announce that this is a Ferme Ornée, this a Cottage, this a Hermitage.

Architectural inconsistency does not stop here; a celebrated Writer on the Principles of Taste tells us that he "ventured to build a House, ornamented with Gothic Towers, Battlements, Pinnacles, and Flying Buttresses, without, and Grecian Columns and Entablatures, within," and altho' this example, the author adds, has not been much followed, he has every reason to congratulate himself on the success of the experiment, he having at once an elegant and convenient dwelling, tho' less perfect than if he had executed it at a more mature age.

These innovations display a dangerous tendency, calculated to destroy all relish, even for the finer efforts of Gothic Architecture, so happily and successfully displayed in some of our ancient Structures, the beauties of which, if felt, are certainly not often transferred into modern buildings.

In many modern buildings, called Gothic, not only are the improvements and changes made in different Gothic Edifices, in different ages and under peculiar circumstances, blended together in the exterior of the same building but this is done also without any attention to priority of invention.

The advocates for the mixture of the Works of different Ages and Styles justify this manner of building from the examples of our ancient Cathedrals. Some of those Edifices, from their great extent, occupied several ages in their completion, and consequently came under the influence of different opinions and feelings, the Architects frequently introducing such variations and improvements, as they observed in other Works subsequently raised.

How these deviations from correct feeling can be tolerated, nay approved, by the admirers of the pure Gothic Architecture, I know not. Inigo Jones, Sir Christopher Wren, and William Kent have been justly blamed, their taste arraigned, and their judgment doubted, because they sometimes blended Roman and Gothic Architecture in the same Structure. Is there any man so devoid of Taste and Feeling of Art, that with all his love and attachment to the sublime effects of Grecian Architecture, he can bear to look at the Screen, erected by Inigo Jones in Winchester Cathedral, or at that by William Kent in Gloucester Cathedral, or who does not deprecate the sacrifice made by Inigo Jones, in the alterations he made to old St. Paul's, and more particularly at the principal front?*

I trust these examples will serve as beacons to point out to the young Students what they are to avoid, rather than be looked upon as

*Yet viewed as a Composition what could be more beautiful than the Portico of Old St. Paul's? It must have cost Sir C. Wren a pang to destroy so fine a model. Such indeed must have been the case with Sir W. Chambers when he destroyed the Water Gate in Somerset House Gardens, the Front of the Royal Academy (*Plate* 64), the Chapel Staircase and other parts of that Structure built by Inigo Jones.

models for imitation. When they are required to restore, or stop the ravages of time in any of our Ancient Buildings, or to alter any parts of one of those splendid Structures, so admirably calculated for the purposes of Devotion, let their first care be to study the Style and Character of the Work in all its nicest particulars, so that the new parts may only be distinguished from the old by the freshness of the materials wanting the mellow tints of Time. Above all, let the young Architect in all cases consider how he can best preserve the Works of former ages. Let him beware of destroying that, which is not absolutely beyond the possibility of restoration, to make way for novelties of any kind. Let not the rising generation of Artists be told that the Architects' motto was from early times, and will ever be

"Diruit aedificat mutat quadrata rotundis."

I trust it is not necessary for me to caution the Students further from being led astray by authorities, however great, to the adoption of such False Taste. Such ineffectual attempts at Contrast and Variety must be fatal to every sound Principle of good Architecture. Without descending to unjustifiable Innovation the Artist will have sufficient opportunities to display the richness of his Fancy, the fertility of his Invention, and his Classical Taste in the exterior of his buildings, and the Plan will furnish him with innumerable occasions of showing his knowledge of Ingenious Combination and Convenient Distribution.

It is not only in the exterior of a building that the abilities of the Architect are to be displayed. The Ichnographic projection must not be considered or treated as a secondary object. In this part of the Design, as well as in the exterior there must be a regular gradation of parts from the smallest to the largest. Beauty in the exterior, unattended with internal Propriety and Convenience, and a judicious, artist-like arrangement of the different Rooms and Communications, suitable to the Character of the building, produces nothing but disappointment. If, in Painting, fine Colouring, without correct Drawing, Character, and Expression, will never make a fine picture, so in Architecture, the real Artist, the Man of superior talent will show his Taste, Genius, and sound Judgment, not by placing an Arcade, Portico, or Colonnade as spots in the centre of his Composition, nor by a rapid mixture of Circles, Polygons, and mixed Figures in his Ground Plots, but by preserving in every part of his work Consistency, Harmony, Continuity and Character. A Building to please those who are acquainted with the great fundamental Principles of Architecture, those who are capable of feeling the powers of Symmetry and Continuity, must have all its different parts in perfect Unison.

The Fire-places must all throw out sufficient Heat, the Windows admit a due quantity of Light, and the Doors, Passages and Staircases, must afford easy Communication with every part of the Structure.

The Student in composing his Plan must be mindful to avoid irregularity. He must look at Nature, imitate her Simplicity, and follow her Symmetry, he will there learn that Contrast with a Balance of parts is as essentially requisite to form a well-composed Plan, as a strict attention to the uses to which the different parts of his work are destined, are to produce a convenient dwelling. Nor should it be forgotten that it requires as much, or even more attention and study, and will redound as much to the fame of the great Architect, to arrange a Kitchen, Laundry, and other inferior Offices, in the most convenient and proper manner, as to design the most magnificent Apartment.

The inferior Offices of every kind, nay even those least likely to be generally noticed * must be as much the object of his attention, as the principal parts of his Composition.

The magnificent exterior, the spacious and lofty Hall; the noble Eating Room; the

* Dean Swift, when first introduced at Burlington House, in order to judge of the Lady's good housewifery, ran up into the Garrets to see if they were clean and well arranged; observing that any Lady would have her Drawing room in order. In like manner, to judge of the merit of the Architect, I should first examine his Offices, and if they were neglected, or not understood, as Economy and Comfort are essentials in an English Mansion, I should hold that Architect at a low rate.

superb Drawing Room; the Classical Library; and the extensive Picture Gallery, will lose their Effect if the other parts of the building do not accord with them.

A suite of magnificent Rooms on the Ground Floor requires the Chambers and the access to them to correspond. All the Domestic Offices of every kind, as well as the Servants Lodging Rooms, must be so combined as to make them parts of the great Whole. It may be added, that if the Stables and even the out Offices of the most inferior kind are neglected, the Architect of such a building will deserve but little praise.

In composing the Plan of a building therefore, the Architect emulous of fame, will never consider the most minute part of his Composition unworthy his notice.

In speaking of the Uniformity or Regularity of Plans, I mean that happy Balance of Parts, that due Relation of Solids and Voids, which are equally compatible with Beauty and Propriety.

I could have wished to have led the young Student by degrees, from the most simple Compositions, contained within the limits of plain figures, to the consideration of those of the most varied and complex. To have made them acquainted with the various Beauties and Conveniences, in the different Distributions, from simple square figures, and to those more complicated and varied; but this, the time allotted for these Lectures will not permit. I trust, however, to impress on the minds of the young Artists those sure and fixed Principles, which the best works of Antiquity, and a recurrence to the great Works of Nature, can alone teach. Such work alone will stand the test of Truth.

Economy, Utility, and Convenience, which are never to be neglected in Private Dwellings, invariably require Rooms and Communications of every kind to be as much as possible of rectangular forms. Otherwise the expense of the building will be materially increased, and void spaces be left of little, or no use, as in these drawings of Gorhambury and Wardour Houses. Hence it happens that the plans of English Houses in general are so frequently formed of Squares and Parallelograms.

In treating on this part of our Art, as the most minute description of the Plans of Edifices will convey but little practical information to the young Student, I shall therefore endeavour as far as possible to exemplify this part of my subject by drawings of buildings already executed, to which the Student can easily refer. When examples from real structures do not occur I must then be allowed occasionally to offer to your notice Designs of my own.

The most simple and at the same time the most useful figure or form for the outline of a building for domestic purposes is the perfect Square, or the Parallelogram.

I noticed in my last Lecture that Rooms formed of the entire Ellipse, the Circle, the Triangle, and the different Polygons, may be very properly and advantageously introduced into the interior of buildings. None of these figures, however beautiful and pleasing in their outlines, can ever be applied to form the great outline of any space, that is to be divided and sub-divided into a great number of different rooms, for the purposes of habitation, without a more considerable sacrifice of expense and a greater loss of space than Employers in general would judge prudent to adopt, or the generality of Architects think proper to recommend.

Many examples, however, of Houses, whose outlines are of the entire Ellipse, the Circle, the Triangle, or the different Polygons, may be seen in the Works of great Architects of different Countries and different Ages. It should be observed, however, that wherever the experiment has been made to form a dwelling-house, whose general outline is a complete Ellipse, Circle, Triangle, Pentagon, Hexagon, or any other figure, Polygonal or mixed, the attempt has completely failed.*

As far as external appearance is considered either of these forms may succeed perfectly well, but as Houses are made to live in (as Lord Bacon justly observes) more than to be looked at, it follows therefore

* The Student will do well to enrich his Portfolio with studies of these forms of Ground Plans, to enlarge his mind, not as being applicable to modern buildings, but as extremely useful to him when he has an irregular space to build on.

that in the internal arrangement of the Plan, as well as in the necessary and various divisions, there should be Convenience, Utility and Variety, with as little loss of space as possible.*

Palladio, Scamozzi, Serlio, and others of the Italian School seem to have been fully impressed with these Truths, and to have been aware that in the divisions of Circles and Polygons into different Apartments there would be, unavoidably, a want of convenience, great monotony and prodigious loss of space, with a large increase of needless expense.

Vignola, however, at Caprarola has indulged his fancy** and shown what great knowledge and ingenuity can achieve. The whole Design is inimitable; it is convenient as a house; it is magnificent in appearance, and admirably suited to the scenery, and genius of the situation, in which this excellent specimen of superior talent is placed.

The Architects of our own Country, even before the time of Inigo Jones, evinced no inconsiderable powers of invention in their Designs. From among them I shall select some examples of John Thorpe, who lived in the reigns of Queen Elizabeth and James the First. Of his labours I have a large volume, consisting of Original Designs, many of them very ingenious and whimsical studies for Houses, some of which he carried into execution. . . . The following specimens will I trust be found not unworthy the consideration of the young Students.

To judge of the merits of these Plans we must refer to the habits of living in the days of Queen Elizabeth and King James the First. The false wit of the age of James the First was not confined to any particular species of Composition. It entered into Architecture; hence to this fashion we owe the origin of buildings confined to the form of the letter D, the half H, the entire H, and others. To these instances may be added Abbot Islip's architectural pun, expressed in a piece of Ornament. Thorpe, however, was not satisfied with these witticisms, he composed a Design, intended for his own residence, making out on the ground Plan the initials of his name,

> "These letters I and T, joined together as you see,
> Make a dwelling house for me: John Thorpe."

Inigo Jones, in many of his Designs for Houses, has confined the outline to a Circle, an Octagon, and such-like forms, but therein he has shown more ingenuity and contrivance than sound judgment, or a desire to convey useful information.

In these fancies he has been followed by others, with as little success, and I think it will be admitted that the best combinations from such outlines will always evince more fancy than good sense, and more ingenuity than correct taste.

That men, unacquainted with the remains of Ancient Buildings, should indulge in licentious and whimsical combinations is not matter of surprise, but that a man, who had passed all his life in the bosom of Classic Art, and in the contemplation of the majestic ruins of Ancient Rome, observing their sublime effects and grand combinations, a man who had given innumerable examples how truly he felt the value of the noble Simplicity of those buildings, that such a man, with such examples before his eyes, should have mistaken Confusion for Intricacy, and undefined lines and forms for Classical Variety, is scarcely to be believed; yet such was Piranesi. That great Artist, to convince his foreign enemies, as he called them, of the knowledge he had acquired from his study of the Plans of the Ancients, produced this Design for a Roman College.

How it is possible to account for this production, so unlike any part of the remains of the Roman Baths, the Imperial Palace, or any of those great Vestiges of Antiquity which had been constantly before his eyes, and which he had so successfully represented

* Simple figures, in a word, Simplicity, is always preferable to too much wildness; Simplicity may be produced without Monotony, and pleasing Movement without excess of Variety.

** Is it not probable that the peculiar character of the situation influenced the Architect, rather than caprice: Vignola treated a different situation, the Papa Giulio, in a very different manner, and yet in the same spirit of artistlike feeling.

in his Drawings?* This failure, by such a great Artist as Piranesi, a man so justly celebrated for his knowledge and feeling of the Antique, at first sight rather tends to lessen the value and importance of studying the remains of those Ancient structures, which we have been taught to revere as the results of the combination of superior wisdom and refined intelligence and as the solid basis of all our Architectural knowledge. Before, however, we form this conclusion, let us pause and examine the works of other Artists, who have had the same advantages as Piranesi possessed.

Lady Miller,* in her "Letters from Italy," after speaking of a great variety of Architectural Prize Designs, preserved in the Academy at Parma, which do honour to their authors, particularly notices a Composition for a Royal establishment for Painting, Sculpture and Architecture by the late Mr. Dance as a work wherein "the Architect has united great Judgment with an excellent Taste."

As some of my young Auditors may possibly not have an opportunity of seeing the Original Design, I feel particularly happy in being able to show them correct copies of the Drawings here alluded to. (*Plates* 65-66-67.)**

In the exterior there is that successful Variety in Outline, Largeness of Parts, and Uniform Simplicity throughout the whole, that would not disparage the best works of Palladio. In the Plan there is a most happy combination of legitimate forms, in the transition from room to room, the uninterrupted succession of new ideas keeps attention alive, and increases the interest first excited. There is a most complete balance of parts between solids and voids and the whole breathes the true spirit of the finest examples of Greek and Roman Architecture. In the interior the same variety of forms and combinations is kept up, whilst the rich assemblage of Decoration of every kind, selected from the remains of Ancient Magnificence, are so happily introduced that each part seems to be in its original situation. When we recollect that this design was made for an Italian Climate, what can be more grateful to the senses in warm and sultry weather than the sight of Fountains playing in various directions? What can be more congenial with the classical soil of Italy than Colonnades forming the two noble Cortiles, which at the same time that they bring to our recollections the glorious Peristyles of Antiquity, by an association of ideas, lead our imaginations to fancy that we are conversing with the great Heroes, Legislators, Historians, Poets, and Artists of Antiquity.

If, however, a Design, thus admirably composed for Italy, is to be transposed into a northern Climate, the elegant and classical Fountains would tend rather to make the beholders shiver with cold, than create pleasing sensations. Beautiful Colonnades, composed with all the feeling of Ancient Art, and enriched with the most exquisitely sculptured Statues, and Busts of illustrious Men; and with Basso relievoes of their great achievements would produce sensations very unlike those we should experience in a more genial climate.

The design before you is rich in fancy and full of imagination, every part of it shows a perfect knowledge of the Ancient Architecture; it presents to the young Student a rich field of instruction, and I cannot quit it without observing that, if in our buildings we are a century behind the French Nation, this Composition alone, if others were wanting, would be sufficient to prove that the too

* There is likewise a Church built after the Designs of Piranesi, which is another proof that it is not enough to have fine examples before our eyes. Indeed Piranesi seems not to have felt those beauties of the Antique which he has so ably delineated, beyond the power of making out of ruins, bold and imposing Pictures. In that view, his labours, by giving a true splendour and value to the Antique, deserve the admiration and gratitude of the Artist, but when he forgets himself, and despises the Greeks, from whose works the Romans derived all their knowledge of Architecture his conduct is mischievous, for Piranesi must have admirers, and men are more prone to imitate defects than beauties.

* See "Portrait of Sir John Soane." pages 35 - 41.

Note.—These Plans are so highly esteemed in Parma that they have been frequently copied by Students, and I fear almost exact copies of them (how obtained I know not) have gained the first premium in this Institution.

** These are Dance's originals purchased by Sir John Soane from the Dance family in 1836.—*Editor's Note.*

manifest neglect and decay of our Architecture, is not from a want of talent in our Artists, but from other causes, and some of these have been more than hinted at already, but I yet hope to see them removed.

In many of our buildings there is much Originality, Novelty and Variety but, it must not be forgotten, that Novelty, altho' a beautiful siren, has bounds, and Variety, with all her charms, has limits; in both, the Artist must show moderation and sound judgment, not overstepping the modesty of Nature. He should not fall into the excesses of Boromini and those of his School, who, like Piranesi, passing by the fine examples of Antiquity, carried what they called the powers of Invention, so far, as to lose sight entirely of the simple and unaffected Grandeur of those Ancient Compositions, which have stood the test of ages, and will continue to be admired as the Standard of Pure Taste, so long as any true feeling for Art remains.

The works of Boromini and his followers, on the contrary, can only be looked upon as mighty mazes of chaotic confusion, wherein nothing is defined, one form constantly running into another, without taste, use, or meaning, works frivolous, and expensive beyond measure.

In this Country we have occasionally had our Borominis, but latterly, in the greatest part of our buildings, both in Town and Country, we have fallen into the opposite extreme. By a too frequent recurrence of rectangular figures, unmixed with other forms, we have justified the observations of Foreigners, that there is too much sameness and insipidity. Such is the want of Variety, Intricacy, and Movement in our Architecture that it almost seems as if all other forms were banished and excluded and none but rectangular figures were considered fit to be used in the Public and Private Buildings of this Country.* Monotony and tame Repetition are to be avoided, as much as the unnecessary extravagance of Boromini and Fuga. Our system is not only shackling genius, but it is at the same time directly contrary to that happy system pursued by the Ancient Architects, who never lost sight of the Laws which they had observed in the Works of Nature. Accordingly in all the superb remains of Antiquity we discover an inexhaustible store, a splendid assemblage, a noble mine of talent and high intellect. In the Works of the Greeks and Romans, there is a happy and quick succession of varied forms, a constant and regular movement in the parts, the whole calculated to keep the imagination awake, and to give the most lively interest to all their Compositions. For my part I trust that I shall not be understood, from any observations I have made previously, to desire to confine our buildings to a succession of rectangular figures. That is by no means my intention, my object is to warn the young Artist against confusing his Compositions by a too frequent adoption of complicated Forms in the same Design. Every part must be distinct. Rectangular Rooms should communicate with Circular Rooms, and those in turn with Rectangular, and again with others of Mixed Form, the whole in regular gradation both as to quantity as well as shape. Always remembering that it is in the judicious combination of different figures that the mind of a great Architect shows itself. Too much Variety is as cloying as too much Monotony, whilst too much sameness banishes every idea of true Taste, and renders torpid all the powers of Genius. Let the young Artist in his study exercise his mind by combining together in his Plans every form that strikes his imagination. He must be careful, however, and not attempt to carry such exercises indiscriminately into execution; what is fit for the study and calculated to accustom the Artist to difficult combinations, is not always the best fitted for real use.

In the Plan of every Modern building, whether great or small, Public or Private, the Staircase is always a useful, and on most occasions a very important feature.

The Ancients in this intricate part of our Art, excepting for the Triangular Staircases at the Pantheon, and the Circular Staircase in the Column of Trajan (which cannot be regarded with too much attention), give us

* Probably a fair reflexion on the work of Sir Robert Smirke and his school.—*Editor's Note.*

but little assistance: indeed in the Houses of the Greeks and Romans; the principal Apartments, being chiefly if not entirely on the Ground Floor, the Staircase must have been but a secondary consideration.

Vitruvius, in describing the Houses of the Greeks and Romans, does not even speak of a Staircase, and the only information we can obtain, is from the ruins of the Staircases in the remains of the Amphi-theatres, Theatres, Baths, and Temples.

In some of these Buildings the dimensions of the Steps seem to be founded on the Proportion of the sides of the Triangle of Pythagoras (agreeably to the Text of Vitruvius when speaking of Staircases in the Second Chapter of the Ninth Book), whereby the height of them is such as leads to a belief that convenience and ease of ascent was not the chief object in those Works. Whether the same Proportion was used in their Private Houses it is difficult to ascertain.

There are two distinct species of Staircases, firstly those in which the entire flights were formed by continued slopes, consisting of equal spaces of about six feet in length, with a rise which never exceeded one-sixth, nor was ever made less than one-eighth part of the base line. In these Staircases for greater safety, at every rise of a foot and a half, or of two feet; a piece of stone, somewhat raised above the level of the slope, was placed as a curb, the whole thus making a very safe, easy, and gradual ascent. The second kind of Staircase, which is in more general use in this Country, is formed of perpendicular risers and steps.

In these Staircases, the width, rise, and number of steps in each flight must be separately considered.

The Steps, as to width, must be made conformable to the extent, quality, and magnitude of the building. In large Houses they should never be less than four feet wide, so that if two persons meet they may pass without incommoding each other.

The steps of Staircases, considered on the Principle of Relative Beauty, must be accommodated to the most usual heights of the human figure; therefore, the rise and tread of steps will be nearly the same in all Buildings. The rise of the steps and the space from one to the other should be equal to the common step of a man on level ground; which, taken at two feet, gives six inches for the rise, and twelve inches for the tread, or five inches for the height, and fourteen inches for the tread; or four inches for the rise, and sixteen inches for the tread, which is rather too much. Hence it follows that the steps in any principal Staircase should never rise more than six inches nor less than four inches.

As to the number of steps in a flight, Vitruvius is silent, he only says that the steps to Temples should always be of unequal numbers in order that you might enter with the right foot, which the Ancients considered as a favourable omen. Whether the number of steps in a flight be equal, or unequal according to the practice of the best Architects, there should never be more than thirteen, nor less than seven steps without a landing, or a resting place.

The steps of Staircases, whether straight or circular, are usually placed level, altho' sometimes they are made a very little lower in the front, which makes them more easy and convenient of ascent. . . . In the great Staircase in the Pope's Palace at Monte Cavallo, the reverse of this has been practised and it has succeeded admirably. In that Staircase the steps are very wide, they rise very little, and are somewhat lower behind than in front, so that in ascending, the point of the foot is lower than the heel.

This seems against all rule, but it is certain that this declivity from the front to the back of the Steps assists the ascent so much that you do not feel you are ascending. It is curious to conjecture what could have led to this idea; was it the effect of a desire for novelty, or the result of deep reflection?—at all events success has attended the execution. It is the only example I have ever seen of the kind, and, however satisfactory the effect may be to my own judgment, I am not sure that I should be bold enough to follow, in practice, the example of the Architect of the Pope's Palace at Monte Cavallo.

Staircases are of various forms and admit of a great Variety of Figure; almost any shape, from the most simple to the most com-

plicated, whether large or small may be adapted to the uses of a Staircase.

Palladio notices a very singular species of Staircase, as existing in his time in the Portico of Pompey, wherein three winding Staircases were supported upon Columns, and so constructed that the light was equally diffused over every part thereof.

This Ancient Composition, it has been conjectured, suggested to Vignola the idea of his great Staircase at Caprarola, a work that has been most justly praised, and as justly censured; it has many beauties, and likewise many defects. It is large and capacious, suited to the other parts of this noble production. It is light and easy of ascent; like Bernini's Staircase at St. Peter's, it is very ingenious, and very artistlike, and full of bold invention. All the same it is extremely difficult of execution, consequently highly expensive, and nothing can be more improper than the introduction of the Orders of Architecture in such situations.

Palladio describes a beautiful Staircase of four circular flights, passing one over the other and making as it were four Staircases. This Stairway being placed in the centre of the building, gives ready access thereby to the different Apartments, and the Area of the Staircase being open in the middle, whoever passes in either of the Staircases is seen without difficulty. . . . This most happy and successful combination cannot fail to produce the most pleasing effect.

In circular Staircases the same great Architect recommends the fronts of the Steps to be curved, as being beautiful in appearance, and longer as to utility, than if they were made straight. The inconvenience and expense of such steps can never be balanced by any supposed, or real beauty. This kind of curvelinear step is often used at the beginnings of Staircases, with great success, particularly by the French Architects, who have given more Variety and shown more Ingenuity in their Staircases than English Architects generally have done.

French Works, on this part of our Art, are greatly deserving of attention.

Palladio, in his treatise on Architecture, has given the Plans of ten different Designs for Staircases; some on a rectangular, and others on a circular Plan.

Scamozzi tells us the Staircase is as essential in a building as the veins are in our bodies, or the eyes in our heads. In his "Idea dell' Architettura Universale," he gives ten different Designs for Staircases, and altho' some of them differ in form from those of Palladio, yet the general Principles of these great Architects on the subject are the same.

In Staircases, six things are essentially requisite, to be attended to, viz., Situation, Magnitude, Form, Lighting, Decoration, and Construction.

In the Situation of the principal Staircase, Architects differ widely; some directing it to be placed as near as possible to the middle of the building, that it may easily lead to the different Rooms, and be seen from the Entrance; whilst others recommend it being placed in one of the extremities of the Edifice, that the Vista formed by the Suite of Rooms, may not be interrupted.

The ichnographic Magnitude of the Staircase depends on the largeness, and quality of the fabric, and the manner in which the steps are disposed, whether in two, three, or more flights.

The circular form, or figure of the Staircase, where the area is large, is particularly beautiful, but notwithstanding its beauty, the waste of space and the difficulty and expense of execution, have occasioned the preference to be given to the square and parallelogram, as being more easy in execution, more economical, and at the same time suitable to buildings of every class.

The Lighting of Staircases is of great importance: those placed in the middle of houses are best lighted from the top, provided due attention is paid to the Ventilation. Conical Skylights illuminate the whole Staircase more powerfully and equally than any other mode, but the use of them is attended with many disadvantages, so that Lantern Lights, altho' they do not admit so much light, are to be preferred in most cases.

The Decoration of Staircases has been already described in a former Lecture, and

their Construction will be treated of hereafter. (*Lecture VI, page* 97.)

In Country Houses, the Staircase is a secondary consideration, as it generally leads to inferior Apartments, but in large Towns, where the best Rooms are chiefly on the first floor, a necessity arises of giving to the Staircase, Form, Dimension and Beauty suitable to the rest of the structure. It must be so placed as to be easily seen, and constructed in such a manner as to form an easy and general communication with the different parts of the House, without interrupting the different suites of Apartments.

I shall now show some of the Plans, and the Distribution of those Staircases that appear to me the most conducive to the instruction of the Student.

The Staircase has justly been considered as the most embarrassing circumstance in the arrangement of the Plan of a building. Our Architects have felt the importance thereof, and in those grand and magnificent Works, wherein their talents have been unshackled by expense, have produced works of this kind, equal at least, to any of those in the great Palaces on the Continent.

In producing examples of the different modes of treating the Staircase I shall begin with the most simple.

In London Houses, with two Rooms on a Floor, the Staircase is sometimes placed between the two rooms. In this way both convenience and appearance are sacrificed, occasionally a passage of communication is made at the back of the Staircase, and by this arrangement the inconvenience is in some degree removed. If the Staircase is placed as in this Drawing, perhaps as much convenience and effect is gained as such limited spaces will admit.

Inigo Jones, whose superior knowledge in Architecture I have often had the pleasure of noticing in these Lectures, was particularly happy in his Staircases, both as to Convenience and Artistlike effect, even when confined to very small spaces. How superior is the Decoration in these Staircases to what we are accustomed to see in modern Houses of a similar class. What comparative magnificence in the former, what poverty and meanness in the latter; whatever we have gained in lightness of effect, we have lost more in Importance and Character.

Ambresbury in Wiltshire, a well-known work of Inigo Jones,* has a great Staircase containing a smaller one within its wellhole.

It has been copied, with success, by the late Sir William Chambers in Lord Besboro's Villa at Roehampton. This double Staircase is of singular invention and particularly useful in application; for, wherever it is practicable, it offers the best security in the event of Fire, as it admits of both ends of the Steps of Stone Staircases being confined in Walls: if this be not done, a Stone Staircase is of little more real security than a Staircase entirely of wood.

At Coleshill the Staircase is singularly simple, and admirably adapted to the general style of the House.

There is another example of the picturesque effect of Inigo Jones' Staircase, situated in one of the Prebendal Houses in Deans' Yard, Westminster, and yet, strange to tell, this Staircase, altho' so situated and so full of rich fancy, is scarcely known. (*Plate* 68.)

The Staircase in Buckingham House, the residence of her late Majesty Queen Charlotte, with its magnificent Hall, was worthy to form part of a Royal residence. This magnificent Hall and Staircase has, however, recently been destroyed. (*Plates* 69-70.)

The Staircase, by Kent, in Lord Clermont's House in Berkley Square, is a splendid specimen of what may be done even on a small scale, by a Man of genius. In this celebrated Work, the space being very confined, that great Artist, availed himself in some small degree of the twisted steps so much praised by Palladio. (*Plates* 71-72.)

The Staircase in Wardour House, by the late Mr. Paine is grand in outline, and convenient as to situation; it possesses most of the requisites of a good staircase.

The Staircase at Worksop Manor House, by the same Artist, differs materially from

*Now generally held to be by his pupil Webb.—*Editor's Note.*

that at Wardour House in its form, but is equally convenient and magnificent.

The late Sir William Chambers was likewise very happy in the Composition of his Staircases, and here I cannot refrain from expressing my regret at the entire demolition of one of his great works of this kind, the beautiful Staircase of Melbourne House, which was once the boast of the pupils of Sir William Chambers, and an ornament to one of the best planned Houses in this great Metropolis. The spirit of parsimony entered this once noble mansion, laid it waste, and stripped it of all its beauty.

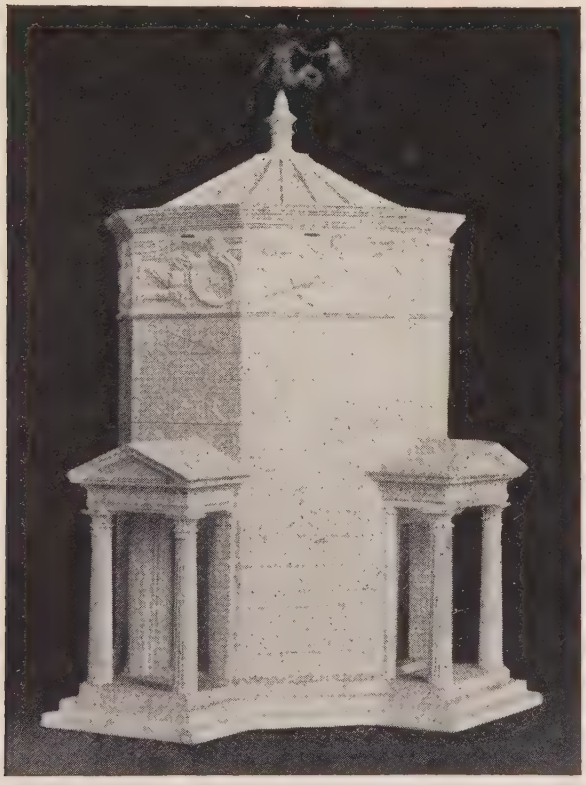
Fortunately for the fame of Sir William Chambers, another of his great Works in the same way, exists in a House built by that Architect for the late Earl Gower at Whitehall.* (*Plate 72, which also gives a Staircase by Sir John Soane, now destroyed.*)

To these examples of magnificent and uncommon Staircases I shall add one more, whimsical in its Composition and uncommon in its Effect, but worthy the attention of the Artist from its Singularity and the Boldness of its Construction.

It is in the Church of St. Etienne, near the Pantheon in Paris. (The well-known Rood screen with double staircase. A drawing by Henry Parke while in Paris with Sir John Soane in 1819.)

* Carrington House destroyed in our time.—*Editor's Note.*

END OF LECTURE VIII.



Tower of the Winds, Athens

LECTURES ON ARCHITECTURE

By Sir John Soane, r.a.

LECTURE IX.—PRINCIPLES.

Mr. President,—I have endeavoured in these Lectures to impress upon the mind of the Student in Architecture the necessity for close, unremitted, application, and of deep, indefatigable, research. Not a moment must be lost from study, even from earliest youth, by him, who is desirous of attaining superior excellence in Architecture. He must search deeply into the great elementary Principles by which means the Artists of Antiquity produced such mighty Monuments of powerful Imagination, elegant Fancy and refined Taste. Those Monuments of human talent have never been equalled, and their ruins even have been the admiration of the most enlightened minds in all Ages and in all Countries. From an intimate acquaintance with these noble remains the uncertain wanderings of genius will be restrained, and the Artist be enabled to seize the spirit that produced them, and so to infuse the same feeling into his own Compositions.

Students must not only be well acquainted with the buildings erected in different Ages and in different Countries, but must endeavour, from the remains of Ancient Works to learn what the Grecian and Roman Architects would have done in their situation. By such a course of study we shall become Artists, and not mere Copyists. Armed with fixed Principles, which can only be derived from the sources pointed out to you, we shall not be led astray by fashion and caprice. A vain and foolish pursuit after novelty and paltry conceits proved fatal to Art in the lower Ages; a period wherein buildings were erected of great magnitude and expense, but although objects of admiration at the time, these works are not subjects for imitation. They reflect no honour on those who raised them, nor will they ever be referred to as standards of Taste.

For want of those Principles (so prominent in the Works of the Ancients) even men of genius and talent have only occasionally caught by chance, or rather stumbled on, the underlying causes of our admiration of the Ancients.

Continuity of Character, and Harmony in Proportion, are the great charms in the Compositions of the Ancients. Whether surrounded with magnificent Peristyles, as in the Temples of Minerva and Theseus, or having two fronts only with insulated Columns, and the flanks decorated with three-quarter or semi-columns, as in the Temple of Fortuna Virilis. Whether the fronts have Porticoes and Pilasters at the angles, as in the Temple on the Ilissus, or lastly if isolated Columns are in the fronts, and a series of Pilasters at equal distances to connect them together, as in one of the Temples at Palmyra.

In all these different Compositions the same general elementary Principles are preserved. In each of them this powerful, this unerring Principle, is visible under different degrees of Character; strongly marked in the first example, and gradually diminishing to the last. Even the last arrangement appears comparatively interesting in those buildings wherein Doors and Windows are not necessary between narrow intercolumniations. When that is the case the unavoidable repetition of small parts, destroys the grandeur of the work, particularly if the Columns and Pilasters are of large dimensions, this is particularly obvious in the front of St. Peter's at Rome. (*Plate* 109.)

The Student must likewise remember that Continuity will not be sufficient in the exterior alone, there must be a similar feeling, and an attention to elementary Principles throughout the interior as well.

Nothing is of greater importance than the

preservation of this great principle of Continuity in every part of the building. It is worthy of our consideration how it happens that this principle of Symmetry, with which all of us are pleased (those who know the cause of their satisfaction as well as those who are pleased without knowing why) is so frequently observed only in one part of a building, and is not continued throughout?

The exterior of buildings of every description should be composed of larger and less decorated masses than those which form the interior. The fronts of Houses in the Country, where space is not limited, will be, of course, extended and composed on principles widely different from Houses in Towns, where from the value of space, and the difficulty of obtaining it, the front of each is necessarily as much contracted as possible.

Houses of three or four stories above the level of the ground, with offices sunk entirely or at least half their necessary height below the pavement of the Street, may be admissible in great Cities, but Compositions of this description are unfit for Country residences. Villas, with such lofty elevations are not uncommon, where motives of economy and convenience alone are consulted, but never where Character in respect of situation is duly attended to, and still less where Magnificence is attempted.

The most extensive front of this kind, however rich in decoration, is rather calculated to give the idea of a large Manufactory than of a Royal Residence, the Hotel of a Nobleman, or the Dwelling of an opulent Merchant. It will be readily admitted that without prodigious expense it is not possible to have all the Principal Apartments on the same floor; but wherever Magnificence is consulted, the idea of one storey only should be preserved. (*Plates* 55-82.)

In another respect, from the point of view of Magnificence, there is a reason why a Palace should present the appearance of only one storey in height. An ingenious French writer on the Arts has observed that it is not suitable in a Royal Palace to have any Apartments over those in which the Sovereign resides.

To preserve the appearance of one storey the Chambers on the second Floor should be lighted from inner Courts, as at Holkham, or as at Petersham Lodge, an elegant production of the celebrated Earl of Burlington.

In that Villa the Chambers are so arranged as to receive their lights from the Entrance Court, whilst the exterior towards the Lawn has only one tier of Windows. An air of Magnificence is thereby given to spaces, not in themselves considerable, and when coupled with the Simplicity of the well-proportioned front, a most pleasing effect is produced.

The Garden front of Wilton House is another example of what may be effected even in the plainest Building when treated by the man of genius and taste. (*Plate* 73.)

The interior effect of Doors, and Windows, having been noticed in the last Lecture, the exterior appearance of these parts is now to be considered. It is of great importance to the general effect of every Building, whether for Public or Private purposes, that the Doors and Windows should be, in form and dimension, such as the Magnitude and Destination of the Edifice requires, so that they may correspond with the Character of the rest of the exterior.

In determining the proper quantity and style of Decoration; the exact limits and just points of decision, between what is too complicated and too simple, too high or too low too narrow, or too wide, is no easy task. Natural Taste, and good sense, joined to great practice and close observation, can alone guide the Architect in this difficult part of his Profession.

The Ancients paid the greatest attention to the Proportions of their Doors; indeed much of the Character of a building depends on this feature in the front.

The principal Door of entrance, as the poet says, should not be so low that it

> "Instructs you how to adore the heav'ns, and bows you
> To morning's holy office
> Nor arch'd so high that Giants may get thro'
> And keep their impious turbans on without
> Good morrow to the sun,"—
>
> Cymbeline, Act 3, Scene 3rd.

The Ancients on all occasions, seem to have been sensible of the powerful effect of large entrances into their Temples. The Door into the Pantheon is nearly twenty feet wide, and forty feet high, yet it appears no larger than is necessary to make it harmonize with the Magnitude and general Character of the entire work. The Door into the Temple at Tivoli is another fine illustration of the practice of the Ancients: This Door, which leads into a space not quite twenty-four feet in diameter, is nearly eight feet wide at bottom, and seven and a half at top, and eighteen feet high. Nevertheless, it does not appear too large; or out of Proportion; it assimilates with the magnificent Peristyle of this celebrated little Temple. (*Plate* 25.)

The Door into the Temple of Hercules, at Cora, is of the same character as the preceding, and so, from what remains, we may conclude was the Door into the Temple of Vesta in Rome. To these examples may be added one of the Doors in the Palace of Dioclesian at Spalatro, and, if time would permit, many others might be produced.

Vitruvius has been very particular in his observations as respects Doors, and assigns different Proportions and Decorations to those which accompany the Greek Orders.

Doors, he says, are to be made narrower at the top than at the bottom in proportion to their height, thus, if the height of the Aperture is not more than Sixteen feet, it must be equal to one-third part of the breadth of the Architrave, if the height is from Sixteen to Twenty-five feet, the upper part of the Aperture is to be contracted one-fourth; if from Twenty-five to Thirty feet, one-eighth of the breadth of the Architrave, and if higher the sides are to be made perpendicular. It is to be regretted that Vitruvius does not give us any reason for this seeming whimsicality, in which he has been followed by others.

Jean Bullant likewise directs Doors to be formed in this manner, and assigns different Proportions for them when they accompany either of the Orders of Architecture.

Philibert de l'Orme gives the Proportions of an Antique Doorway at St. Sabina on the Aventine Mount, which he describes as being broader at top than at bottom, a circumstance, considered by him, worthy of praise, because the Door being very lofty, the upper part, would be lessened to the eye.

I shall now show examples of Doors from St. Peter's at Rome, St. Paul's Cathedral, and St. Martin's Church in London. (*Plates* 94-109-118):—In these, and in most other modern buildings, we may observe a total deviation from the practice of Antiquity. The Apertures are comparatively small with respect to the entire structure, and instead of the marked Simplicity of the Ancients, they are surrounded with panels, recesses, and ornaments of various kinds, filling up the space in a manner that destroys whatever might have been expected from the large Columns in the front of St. Peter's Church, and the magnificent Porticoes of the other buildings.

The usual practice as to external Doors in modern buildings corresponds with these examples. They are generally very small, calculated merely for use, without sufficient regard to Harmony in quantity with the general masses, and Character of the building, as in the front of Lord Spencer's superb Mansion, of Sir Watkin Williams Wynn's House, and the Houses in Mansfield Street. (*Plate* 107.)

The forms of the Panels, the Mouldings and other enrichments of the Doors, should always be well considered.

The forms of the openings of Doors, and Windows are by no means arbitrary. Doors and Windows with semi-circular heads are never to be used in the same form with Columns. The spaces between the Columns being always square are not properly filled, but the semi-circle leaves on each side of the Arch an irregular, and unpleasing form.

Windows and Doors with semi-circular heads can only be placed, with propriety, under vaulted Ceilings. Harmony and analogy both require a straight line under a straight line, and a curved line under a curved line.*

* Basevi has failed to observe his master's precept in the Portico of the Fitzwilliam where the round headed door is certainly unpleasing.—*Editor's Note.*

Doors and Windows with circular heads, altho' inadmissible with the Orders of Architecture, are very frequently used in simple fronts, sometimes in each storey of the building, and at others confined to the ground floor. (*Plates* 47-102.)

Windows are sometimes decorated with an Architrave round the entire Aperture, at other times with an Architrave, Frieze, and Cornice, to which are added circular or pointed Pediments, and at other times alternately pointed and circular, but bad taste only can sanction these uses of the Pediment.

Windows with Architraves, Friezes and Cornices, resting on plain zocles or Pedestals, were frequently used by Palladio, and Inigo Jones, and have a most pleasing effect. In the works of Gibbs and his contemporaries, the dressings of the Windows are finished with plain cills, supported by clumsy Consoles; a sort of false bearing, offensive to every just Principle. (*Plates* 64-74-118.)

It may perhaps be thought superfluous to caution the Student that the principal Door of Entrance, like the nose in the human face, must be in the centre of the building, and yet examples of the contrary practice sometimes occur, as in the front of Cudsworth House and some others. Perhaps it may seem still less necessary to point out to him the impropriety of placing a Column in the centre of a Portico; such examples, however, are to be found in modern buildings. Some religious mystery, or other circumstance of Paganism,* might require this deviation from the usual practice of the Ancients, but there can be no reason, either of convenience, or beauty to account for such preposterous fancies in modern buildings.

In the exterior of Private Buildings, particularly those wherein utility, and simple regularity are the chief objects of consideration, if the parts are well proportioned, if the solids are not less in width than the voids, if the external or angular Piers be somewhat larger than the others, if the solids and voids are thus duly balanced, if the fronts are well proportioned in their lengths and heights, such works cannot fail of being highly interesting to the judicious observer. If, however, Windows are too large and too numerous, if the Piers between them are very small (as was the almost general practice in this Country about a century and a half since)—if the external, or angular Piers are narrower than the others (as is frequently to be seen, even in the Works of Palladio), such Compositions appear to be wanting in solidity. As regards internal comfort, structures like bird cages appear more calculated for occupation during a few hours of the finest summer days than for permanent and regular habitations, and contrasted with the immensely large Piers, and the diminutively small Apertures, in deep reveals, so prevalent in the old Buildings of this Country, will show the impropriety, and comparative defects of both of these systems.

Pilasters.—The remains of Antiquity offer various examples of Pilasters, on the Walls of the exteriors of Buildings, such as the Monument of Caius Bibulus in the Corso at Rome, likewise of half and three-quarter Columns as in the Temple of Fortuna Virilis, La Maison Carrèe at Nismes, the Theatre of Marcellus, and the Coliseum. Examples of Columns, merely just detached from the Walls, may be seen in the Triumphal Arches. Notwithstanding these, and other examples that might be adduced, it is evident from the best works of the Greeks and the Romans that they considered portions of original objects as imperfect forms; and therefore confined them almost always to their Theatres and Amphitheatres; a species of building that did not require, or admit of the majestic and impressive effect of Temples sacred to the immortal Gods. Altho' in the exterior of the Temple of Jupiter at Girgenti, parts of Columns are used, yet the Student must not be misled, either by this great example of semi-columns, or by another of three-quarter Columns in the remains of the Temple of Esculapius also at Girgenti.

* The occurrence of the central pillar in remote Antiquity may be traced to the earliest roof, where the ridge is a heavy beam on which the rafters rest. Central intermediate and end supports arise from this. Compare the Malay and other early hut buildings of some tribes. The tradition lingers in Italian farm buildings where a pier occupies the centre of the spandrel end of a roof.—*Editor's Note.* (Refer to page 52.)

The young Student must not consider such Compositions as conceived in the true Sublimity and Austerity of Architecture; nor, because all these different applications of the Orders have been sanctioned by Palladio, and the other great Restorers of Architecture in their Works, must he conclude that he will be justified in adopting them in his own. (*Plates* 74-75-76.)

The exterior of buildings decorated with Pilasters, half, or three-quarter Columns, or even Columns merely detached from the Walls can only be looked on as Architecture in Bassorelievo—as Art in its dotage—a sort of bastard progeny, unconnected with the legitimate offspring of Antiquity. If the Greeks and Romans, in the decline, or rather decrepitude of Art, made use of these mutilations, it was because all Patrons of Architecture did not possess the mind of Pericles, nor were all Architects endowed with cultivated understandings.

Modern Architects, who use the remains of Antiquity without reference to First Principles, are like those Writers who, in their imitations of the old Poets, are satisfied with selecting words that have become obsolete from time, and merely adopt some few of the particular modes of expression used by the author, whose style and manner of thinking they profess to imitate.

Authorities and examples, however sanctioned, whether by the practice of the Ancients, or the works of the great modern Masters, if they deviate from the First and Pure Principles on which our Art is established, must be rejected by all those who wish to work in the same quarries with the Ancients, and who are anxious to seize their spirit, and use the rich, the invaluable materials, they have left us. . . . We must never judge of the works of the Ancients without referring to their origin. Experience shows how vain it is to attempt, and still more so to expect to see the beauties of Ancient Temples transposed into modern Houses, either by preserving their external appearance entirely, or by mangling them, and transferring parts into our own Compositions.

Of the exterior of buildings, the Roof and some other parts are yet to be considered.

To secure by proper roofing a building effectually and permanently against the repeated attacks of weather and inclement seasons is an important part of the duty of the Architect. In the Construction of the Roof, he shows his skill, experience and judgment in the most conspicuous manner. Even the Foundations themselves, owe their stability and duration to the soundness and protection of the Roof. Altho' it may be less difficult to correct defects in the roofing than in the foundations, yet to prevent defects in the Roof is particularly necessary because troubles generally begin in those parts of the Building where they cannot be noticed until the mischief has extended far beyond its original source.

It is therefore most important to attend to every part of the Roof, as to its form, and the means of conveying away the Water from it. Wherever there is the smallest crack or defect, Water, by its subtilety will soon penetrate, and by its humidity, if suffered to continue, will in a short time, rot and destroy the very nerves of the most substantial Edifice, even to the Foundations themselves.

In determining the heights of Roofs, climate and materials must be duly considered. Intersections and shapes on Plan, must on all occasions be as simple as possible.

Roofs are covered either with Straw, Reeds, Tiles of various kinds, Slates, Iron, Lead, or Copper.

Straw is generally considered the most humble of all coverings, yet at Norwich, in the very heart of the City is a Church, the Roof of which is of thatch. Straw requires the pitch of the Roof to be very high, so as in many cases to overpower the building, and is indeed now seldom used as a covering excepting Barns, and Out-houses, and the Ferme ornèe of the present day.

Even for Buildings for the purposes above named Reeds are more durable than Straw, more pleasing to the eye, and far preferable, as they require the Roof to be less elevated than what is necessary for Straw.

Plain Tiles, and Tiles of every description, have many of the disadvantages of Straw and Reeds. They make a very durable covering, altho' they are ugly and vulgar in the extreme, moreover, when the additional strength, and consequently greater quantity of Timber and Labour is considered, Tiles are not the least expensive covering.

Slated Roofs require less height than those covered either with Straw, Reeds, or Tiles, and are in every respect preferable to them. Where the first expense is not an important consideration, Iron, Lead, and above all Tinned Copper, are the most desirable, both for elegance and beauty, and, what is even of greater consequence, for durability.

With these latter mentioned materials, as far as utility is concerned, Roofs may be of any height.

In modern buildings we have not always exercised sufficient discrimination with respect to the forms of our Roofs.

It seems as if this part of the structure has been considered for its Utility only, without looking at its capability of increasing the Beauty of the Edifice. Hence it follows that we have been too often satisfied with adopting the simple form of Roof, so well suited to the character of the Ancient rectangular Temple, but one which gives to other Compositions, where inferior materials are used, a Barn-like appearance. . . . From the nature of the materials, and the high pitched Roof of St. Paul's, Covent Garden, the late Lord Orford would only allow Inigo Jones the credit of having built the finest Barn in Europe. (*Plates* 13-14.)

Simplicity of form, to a certain extent, is always pleasing and generally useful, and it is peculiarly necessary to the Character and Durability of every Roof, but in buildings of great extent, composed of various masses and subdivisions of parts, Variety is likewise required in the form of the roofing.

Simplicity may, however, be carried so far as to become monotonous, and disagreeable. Many of the long, continued, and unbroken lines of the Roofs of different buildings, both in England and on the Continent, have an unmeaning and tiresome appearance, as, for instance, the Garden Front of the Palace at Versailles, whilst the inequalities and breaks in the heights in the Roofs of the Tuilleries, with the Chimnies rising above them, give a richness and Variety to the exterior of the entire Composition. It is a mistaken idea to consider Roofs as mere matters of Convenience and Utility. Roofs on the contrary assist materially in embellishing or in destroying the general effect of the whole building. The greater the opposition and contrast in their forms, in buildings of considerable extent, the greater and more pleasing will be the effect, not only of the roofing, but of the whole external appearance. If the fronts of two Houses are equally decorated, and one has only a simple Roof, like that of an Ancient Temple, it will give the idea of a very common dwelling, whilst the other, having its roofing diversified, with different heights, and different forms, will claim a more general attention.

In like manner if the fronts of two Houses are of equal dimensions, and similarly decorated, one with a Roof so disproportioned, as seemingly to oppress and overload the front, whilst the other has its Roof duly proportioned to the height of the building, such a covering will increase the general effect of the whole Elevation. (*Plate* 47.)

The forms or figures of Roofs depend not on elegance of outline only, but likewise on climate, and the materials with which they are covered. Altho' Pausanius speaks of having seen Temples in Attica covered with straw, the Greeks were generally very expensive in the Roofs of their buildings. They were often covered with Marble and gilded Metals; indeed in later times, Roofs became parts on which they bestowed very great attention. Thus the Roof of the Temple of the Winds, and that of the Parthenon were of Marble, and beautifully formed. The Domes of some Italian buildings are particularly beautiful.

The different forms of Roofs are almost infinite; they are generally either domical, Polygonal, Terraced, or Pointed. These figures admit of numerous modifications and combinations. Roofs are likewise formed

with two inclined sides, with a Gable or Pediment at each end, as in the Ancient Temples. Roofs are also made inclining from each front. There are likewise curved, or Mansard, Roofs, why so called I know not, this kind of Roof having been used long before the Mansards * were in existence. Roofs of this sort are often adopted from their affording more space for Rooms within them than the simple and more elegant pointed roof. The Mansard, of modern invention, is considered by some as more agreeably varied in its appearance, than the Roof of the Ancient rectangular Temples. The low pointed Roof is admirably suited to the climate of Greece, and particularly adapted to the rest of the Architecture of their Temples. Its fitness to the Climate constitutes a large portion of its beauty, and consequently, it cannot be transplanted into different and less mild Climates; accordingly in the Roman Temples, the Pediment, or Roof, assumes a character totally distinct from those in the Greek Temples. In Northern Climates the Roofs of buildings are necessarily made higher; thus Inigo Jones made the Roof of the Church of St. Paul, Covent Garden (*Plates* 13-14), much higher than those in the works of Palladio. This was done, not alone with regard to Climate and Character, but likewise in consequence of the materials employed, for it should be recollected that this Church was originally covered with tiles. It is now covered with slates, and is thereby materially altered from its original Character, a circumstance that cannot but be regretted by every admirer of Inigo Jones.

In Gothic structures, the height of the Roof is determined by the internal Decoration, for altho' covered with Lead, they are notwithstanding made considerably higher than in other buildings, whether covered with Slates or Tiles.

Roofs of every description differ as much in their heights as in their ichnographic forms, these, it may be repeated, must be regulated by Character and Climate and by the Quality of the materials used in covering them.

The Roofs of buildings of every kind should offer some sort of protection to those who walk near them. . . . In Holy Writ it is said: "When thou buildest a new House then thou shalt make a battlement for thy roof, that thou bring not blood upon thy House, if any man fall from thence."

This admonition can only be applicable to the flat Roofs, and Terraces so common in the buildings in the East, a part of the world where it has been always considered not only a species of luxury, but of intellectual enjoyment to walk in the cool of the evening by the silvery light of the moon.

The inhabitants of Syria, both for health and pleasure, pass whole nights, in the summer, on the tops of their houses, which are for that purpose made flat and divided from each other by walls. Travellers also find this way of sleeping extremely agreeable as they thereby enjoy the cool air, above the reach of gnats and vapours, without any other covering than the Canopy of the Heavens, which, upon every interruption of rest, presents itself in many different and pleasing forms, when silence and solitude dispose the mind to contemplation.

Flat Roofs in every Country must be looked on as beautiful, in warm climates they are useful also; but, as they must always indicate places calculated for walking upon, they require safe-guards of some kind, lest in the language of Scripture, "Blood is brought upon the House if any man fall from thence." These safe-guards may be, either the plain Parapet of modern times, or the high and solid Parapet, as in many of the Ancient Bridges, or Balustrades, which are equally useful, and being better suited to private buildings are more beautiful. They should be confined to flat Roofs, or Terraces. If they are used with pointed or sloped Roofs, as is frequently done, the great Principle of Grecian Architecture, so strongly insisted on by Vitruvius, which interdicts the introduction of any Ornament, or other thing into the exterior or interior of a building which the Architect cannot satisfactorily

* The family of French architects usually now *Mansart,* Francois (1598-1666), the most famous, and J. H., his nephew (1645-1708), the latter responsible for Versailles.—*Editor's Note.*

account for, is violated. When the Balustrade is placed on an inclined plane, we may then be said to have reached the acmè of absurdity.

The Balustrade,* however beautiful, was, I believe, unknown to the Ancients, certainly never used by them as the termination of any building, altho' some have fancied that they have traced the outline of the Baluster on the lateral Walls in the arched openings of the exterior of the Coliseum in Rome. I have carefully sought, again and again, for the indication to justify this assumption, but in vain.

In examining the Works of Antiquity it behoves the young Artist to investigate closely those parts which are of the original construction, and those which have been the effect of alterations, either of early times or of later periods.

Thus when in modern times the Ancient Mausoleum of Cecilia Metella, now called "Capo di Bove" was converted, like many other ancient Buildings, into a place of defence, its domical covering was probably (for we have no remains to speak positively from) destroyed, and Battlements with Embrasures added. Would, however, an Architect in our days be justified from this, or any such example, in introducing similar Ornaments into a Mausoleum, and then quoting the "Capo di Bove" as a precedent?

Embrasures, if they do not owe their origin to, at least, are always used as Parapets to the square Towers of Norman structures, with terraced Roofs, but never in buildings covered with pointed Roofs. The reason is obvious: they were for the purpose of observing the approach of an enemy and of annoying him the more effectually; the assailed being protected behind the solid parts of the Parapet.

If this was the origin of embrasures in Gothic Towers and Castellated Buildings how are we to reconcile the use of them as Ornaments in modern Gothic Buildings, not only in those with Terraced Roofs, but likewise in those with Pointed Roofs?

What can be less consistent than to see the upper part of a building so constructed as to give an idea of defence and security whilst the parts nearer the ground are composed of small Piers and large Windows?

Thus much for the Roofs of buildings, with which there is another feature of the exterior very closely connected, *viz.*, the Chimney Shaft. These stacks frequently prove a great stumbling block to the Regularity, which modern buildings of Regular Architecture require, and they must be attended to, to preserve that Symmetry so necessary in works of Grecian Architecture. In what are called Gothic Buildings, Irregularity is, I think, too generally admitted.

Inigo Jones, at Coleshill, and in some of his other Buildings, and Sir John Vanbrugh in most of his Designs, have given importance to Chimney shafts and made them contribute materially to the general effect of their Works. Such examples should impress on the mind of the young Artist the importance of Chimney shafts and convince them of the possibility of making them really Beauties instead of Defects. (*Plates* 78-79.) This has been already noticed in a former Lecture, and need not be pursued further at the present time. (*Lecture VIII, pages* 123-126.)

There is another feature in the exterior of buildings, particularly in the Palaces of Italy, and the Hotels of France, I mean the Mezzanine or Entresol, a low storey, squeezed in between two very lofty ones. In large buildings, the great disparity in the magnitude of the rooms often makes the arrangement very desirable and useful, but on such occasions the Mezzanine should be so contrived as not to interfere with the principal front of the Building. (*Plate* 77.) This Entresol is not confined to buildings on the Continent, there are examples of the Mezzanine in some of our buildings, particularly in Somerset House (*Plates* 91-92), and the Radcliffe Library at Oxford, where there are two Stories in the height of the Column, and what is particularly strange the Mezzanine is placed below, and the lofty

*Note.—Balustrades may be traced to a Gothic origin. They were first used in Roman Architecture by Palladio; at first as little Columns, which I should consider their origin. (*Plate* 116.)

Storey over it. . . . This arrangement is not confined to the Radcliffe Library; in other buildings we see the upper Windows considerably higher than the lower ones.

Such dispositions may be useful, but certainly they are not beautiful. Convenience alone can reconcile us to such disproportionate divisions of the general height of any building. The reason is obvious, Solidity requires the walls of every building to be thinner in porportion as they are elevated. . . . This diminution should be made regularly on every floor in proportion to its height. . . . On this necessary Principle the walls of the Mezzanine would be of less substance than those of the Walls above, but this cannot be in practice, it would be contrary to every sound Principle of Construction. This is one reason therefore why Mezzanines, or Entresols, can only be tolerated by Necessity, never on the Principle of Beauty, or even of Propriety.

In some of the most beautiful of the Italian Palaces, the Windows are nearly of the same dimensions in both the principal Stories; so they are in the Banquetting House at Whitehall; Fishmongers' Hall (now taken down), and in many other of Inigo Jones' best Works. (*Plates* 62-88.)

If the upper Windows are considerably less in height than those beneath them there is the same objection to the variation in size as in the case of Mezzanine Windows, unless they form part of a Regular Attic as in this design from Palladio.

I have dwelt on these Proportions and Dispositions of Windows because they are often introduced, not from Necessity but from a false idea of Taste that they add Variety to an Elevation whereas, in point of fact, when they are not justified by internal Convenience, they are extremely reprehensible.

In the exterior of many of our Villas and other Buildings the principal floor is raised considerably above the level of the ground. This occasions the Necessity of large Flights of Steps on the outside to lead to the Hall of Entrance. However suitable and magnificent External Steps may be in mild and southern climates they ill accord with the Ice, the Snow, and Rains of more northern regions. Various modes and suggestions have been adopted to make these large Flights of Steps suitable, safe, and convenient as well as magnificent.

At Holkham Hall, originally the magnificent residence of the Earl of Leicester, the only entrance from the principal front into one of the most magnificent Vestibules that this Country could boast of, is from a Doorway of very inadequate dimensions in the Basement Storey. This is much to be lamented, for not all the grandeur of this truly Classical Composition removes that first impression of meanness, restraint, and insufficiency which the Entrance creates in the mind. It is impossible from the exterior appearance to suppose that you are at the Principal Entrance to the Mansion.

The Principal Entrance into Wardour House is likewise from a low Basement Storey. This is also the case with many other Houses, designed and raised by different Architects, Buildings in other respects of the most magnificent kind, wherein expense has not been a consideration.

In the Principal Front of the splendid Mansion of Lord Scarsdale, at Kedleston, the grand Flight of Steps being double, the space between admits of a Doorway leading into a Sub-hall, communicating with the principal Hall of Entrance: in this case the Door in the low Basement can only be considered as a convenient entrance to be used in bad weather.

The inconvenience of External Steps has been generally felt in this Country. At Houghton Hall, after great expense had been incurred, and various expedients resorted to without success, the large and magnificent Flights of Steps at the Principal Front were entirely removed, and the entrance made from the low Basement only, as had been previously done in so many other magnificent Mansions.

In the front of the Mansion House the inconvenience of the large Flight of Steps is so sensibly felt that on all great occasions a temporary awning is erected, which totally

destroys for the time the effect of the Portico.

These, and most other expedients have been generally entirely ineffectual, and if in some cases the object of convenience has been partially attained, Propriety and Magnificence have been more or less sacrificed. Of this, the entrance into the late Duke of Queensberry's House in Piccadilly is a striking example. Indeed this kind of descending into the cellar to reach the principal Apartments is carrying our ideas of Convenience (if Convenience it can be called) to a great extent particularly in wet weather, when, if the Ladies head-dresses are spared, their draggled petticoats would suffer. At best this expedient is assuredly extremely ugly; even one species of Convenience may be bought too dear at the expense of another. . . . General Convenience in buildings for domestic purposes must, however, always take the lead, and certainly in most cases we shall be justified in sacrificing Magnificence and even Appearance to Convenience, where both cannot be obtained. That both may be obtained, and the Grandeur of the Entrance preserved, has lately been shown in the North Entrance into Stowe House. For this noble conception the lovers of Architecture are indebted to the late Marquess of Buckingham, whose taste and skill in designing can only be equalled by the other distinguished talents and superior intellectual attainments, which that noble encourager of the Fine Arts so pre-eminently possessed.

Every one is impressed with the effect produced by a large Flight of Steps forming the approach to the Principal Entrance to a Building. The best way perhaps to unite Convenience with Magnificence is to extend the Pedestals on each side of the Steps, and to form Doorways therein on the level of the ground (as shown in this Drawing) leading into a Sub-hall, communicating with the Principal Staircase.

I shall not at present add anything further on the Orthography of Buildings, but proceed to point out some of the different modes in which Architects have connected together the Main Buildings and the Offices of Villas.

In buildings for domestic purposes considerable difficulty arises in the disposition of the Offices, with respect to the Main Building, so as to preserve both beauty of appearance and convenience of arrangement.

In several of the Designs of Palladio, Scamozzi, Serlio, and others of the Italian School, Villas frequently consist of one single mass of buildings, without any visible attached Offices, to disturb the regularity of the four fronts, as in the Villa Capra by Palladio (*Plate* 76). . . In such Designs the necessary Offices for Servants and culinary purposes are placed in the Basement Storey, while the Apartments for the Family and Guests are arranged on the Ground Floor, somewhat raised above the ground with another Storey of bedrooms over it. This is the most simple mode possible, and one wherein the Architect has great scope to display more of the Ancient Architecture than in other modes of Composition. Inigo Jones has followed the examples of these great Masters in one of his most celebrated works, Coleshill, this house, to the honour of its different possessors, has undergone no material alteration * from its original state, as left by that great Architect. Each of the four fronts is almost equally unincumbered, the greater part of the Offices being disposed in the Basement Storey.

I cannot but recommend this House to the attention of the young Artist. The simple Plan, the elegant Staircase, the magnificent Drawing Room, together with the noble and well arranged Simplicity of the Exterior, cannot fail to be highly interesting, and can never be too much admired.

Hagley, the residence of the classical Lord Lyttelton, has in like manner, its Offices in the Basement Storey, the whole Villa forming a Regular Mass of Building, Convenient and Elegant in the extreme.

In other designs of Villas, by Palladio and his Countrymen, the whole Mass of the Building forms a large Quadrangle, with a spacious Court in the middle, from whence

* It is known now that Wm. Kent made considerable changes.—*Editor's Note.*

many of the Rooms receive their light, and thereby afford the Architect full scope to give the exterior in every part an uninterrupted grandeur. (*Plate* 74.)

The fronts, and parts of the sides, are devoted to the use of the Family, and the remainder for the different Offices. This kind of arrangement is particularly calculated to produce a uniform Grandeur of Effect, as the fronts may appear to consist of one Storey only, the Chambers and the inferior Rooms receiving their light from the inner Courts.

There is likewise another Distribution employed by Palladio, which is extremely beautiful, wherein the Main Building is connected with four Pavilions by Circular Corridors.

In this Country the immediate domestic Offices are variously situated. Some are arranged in the front of the Main building, and connected therewith, as at Buckingham House and Montague House, but I cannot think it advisable to contract a large front, as in these examples, but would rather leave the opening clear and spacious.

In other buildings the Offices are connected with the House by a Circular Colonnade, as at Kedleston, or by rectangular Corridors, as at Holkham Hall. The Main Building at Holkham contains the State Apartments, one of the Pavilions the Chapel, another the Apartments for the Family, a third those for the Visitors, while the fourth comprehends the various domestic Offices, these, altho' removed from the Main Building, are notwithstanding most conveniently connected therewith.

Another arrangement, very common in this Country at the beginning of the last Century, was to place the Mansion House between two corresponding Wings containing the Offices and connected together with rectangular or circular Corridors. . . . The effect of this Distribution is by no means equal to the last, as it would appear as though three families of different fortunes had agreed to live near each other but not under the same Roof.

At Danson, a seat of Sir John Boyd's, near Welling, in Kent, is a Villa, erected by the late Sir Robert Taylor. It consists of a Main Building, and two detached Pavilions, without any visible connection with the Main Building. Communications there certainly are, but of a strange kind, being entirely underground. This does not lessen, on the contrary it increases, the objection to detached Wings for the Offices, and this kind of building must always appear unfinished as well as being both damp and inconvenient.

At Claremont, in Surrey, after pulling down the magnificent Villa of its former possessor, the Duke of Newcastle, a large square building was erected by the late Lord Clive, wherein the Kitchen, and many of the other Offices are placed in the half sunk Basement Storey, while the remainder are planned beyond the general outline of the House, these latter being entirely underground, and by thick planting above them the irregularity was partly hid. Thus, in the language of the Author of "Essays on the Pictureseque," "the wretched square Mansion house is left to exhibit its pert bald front, between dwarf shubberies, which seem like whiskers added to the Portico." This mode of insulating the Mansion was a favourite Disposition of the late Mr. Brown, who certainly was much less successful in his Architectural rambles than in his bolder essays in Gardening.

The observation of the Author of "Essays on the Picturesque," is correct in the abstract but not as a general Principle. On the contrary, if the building is stretched out as at Coleshill, or as at Sir Gerrard Vanneck's, at Haveringham, where a large part of the Offices are in the Main Building, and yet not sunk under ground, some very material points are gained, such as Quantity, Simplicity, and Largeness of Parts. Situation, however, must determine in each particular case.

I shall only notice one other method now much in use, altho' fatal to Composition, I mean that of placing the Offices on one side of the Mansion, these consisting either of a single Range of Buildings, or forming an entire Quadrangle. In both cases such Office Blocks must be attached to the Mansion and it is trusted that the Irregularity will in time be masked by Plantations.

This mode, may be, and is, I believe, a very convenient Distribution, and applicable to particular Situations, but at the best, it is but a paltry make-shift and one seldom resorted to by any great Artist.

These are the most usual methods of distributing the different Masses of which Villas are composed. . . Some, at least, of these Distributions have been adopted, more from the prevailing fashion of the day, than from any just regard to Locality or Convenience. All have had their advocates, but as a general Principle it will be admitted that the more important Offices of a Villa should never be sunk entirely underground; either from a desire to obtain great compactness, or from a too strict regard for economy. Many inconveniences are to be apprehended, such as smells from the Kitchen and Scullery, and noise from the Servants Hall. If the several Offices are situated in detached Wings, in the first place, that arrangement will not accord with every Situation. If they are too far off, the most serious inconveniences are felt, and, if too near, and considerably lower than the Main Building, the best Apartments are liable to be annoyed with Smoke from the lower Offices. The worst arrangement of all is, when the Pavilions containing the Offices are connected with the Centre, by a Circular Corridor.

A Circular Corridor to connect the Main Building and the Offices may be pleasing in its appearance, but in all cases it must be inconvenient and expensive, and involve a great waste of space.

The Plans in the Vitruvius Britannicus of Colin Campbell, and those in the continuation of that work by Wolfe and Gandon, together with those in the "Architecture Française," by Blondel, will afford the Students much useful knowledge. I take also the present opportunity to lay before them examples of the general taste of some of the Architects, who have specially distinguished themselves by works really executed. (*Plates* 78-79-80-81.) For this purpose I select *Blenheim, Castle Howard,* and *Seaton Delaval,* by Sir John Vanbrugh: Sir Gregory Page's House at Blackheath, by James of Greenwich (a Mansion which I lament to say has been taken down), Holkham Hall, built by Mr. Brettingham, from the Designs of Kent, and Wardour House in Wiltshire, designed by Mr. James Paine. To these might be added, if time would permit, many other splendid examples both of Grandeur and Convenience. I must not, however, pass by Kedleston, which altho' begun by Mr. Paine, may notwithstanding be considered as one of the great works of my late friend Mr. Robert Adam. . . In this superb structure he has united in no inconsiderable degree the Taste and Magnificence of a Roman Villa with all the Comforts and Conveniences of an English Nobleman's Residence, and tho' some hyper-fastidious critics may endeavour to wrest from that great Artist his well-earned fame, and smile at his efforts to reconcile the idea of blending an Ancient Triumphal Arch, with the exterior of a modern building, for myself I can only regret that more such happy attempts are not made to display the powers of pure Architecture.

An intimate knowledge of the Principles on which Palladio, and the other great Italian Artists composed those Masterpieces of Art which Italy has to boast of, will essentially assist the young Students, and give them correct ideas of simple Grandeur and elegant Composition. They must not, however, suppose that the Plans of those great Men can be transplanted into this Country. Climate, custom and manner of living alike forbid it. The attempt has been made, and the celebrated Villa Capra, by Palladio (*Plate* 76), has been unsuccessfully copied at Footscray and Mereworth Castle, as before noticed. On all occasions we must avoid servilely copying either the Greeks, the Romans, the Italians, or the French; so much depends on Locality, Climate, Materials, and Mode of Living.

Of the Villas of the Ancients we have many useful and important particulars. We cannot, however, avail ourselves on every occasion of these examples in the Distribution of English Villas, for, independently of the amazing extent, and the consequent enormous expense of such mighty Works, the difference

in Climate, Customs, and Manner of Living would make them inconvenient in the extreme, and indeed scarcely habitable. However extensive and magnificent many of the Villas exhibited this evening may be, yet it is manifest that they fall very far short indeed of the magnitude of those of the Ancients.

Of the Villas of the Ancients, Vitruvius speaks in a cursory manner only; indeed he does little more than notice the Villa Rustica. Varro, Columella, and the other Roman Writers on Agriculture have entered fully into the subject . . . The Roman Villa, according to Columella, seems to have consisted of three distinct parts, the Urbana, Rustica, and Fructuaria.

The Urbana, or first part, was appropriated to the use of the Master; the Rustica, or second part, contained the Farm House and the Sheds for the Cattle, and the Fructuaria, or third division, consisted of buildings for the reception of the produce of the Farm.

The Rustica and Fructuaria were either joined to the Master's House, or else placed very near it. At least such we are told was the general Distribution of the Villas of the early Romans. In later times, when Luxury had made its appearance and the Romans had become more refined, and artificial, another species of Villa was then introduced, wherein the Farm House and its appurtenances were entirely removed apart from the Villa of the Master, altho' at the same time these Offices were near enough to supply the Villa conveniently with all necessaries.

Of this species of Villa, Claremont, in Surrey, as designed by Sir John Vanbrugh, with its Palladian Farm, was a magnificent example.

In considering the Villas of the Romans, the remains of the Villa Rustica at Pompeii are peculiarly interesting, and I trust these Drawings have given you some tolerably correct idea of its present state.

Attention is next to be directed to the description given by Pliny of his Villa at Laurentinum, and of his other more considerable residence on the Lago di Como, and also his summer Villa at Tusculum, each of which he has fully described; the first in his Epistle to Publius Cornelius Gallus, and the last in an Epistle to his friend Appolinaris.

Various different Architects have exercised their talents in endeavouring to give an idea of Pliny's Villa at Laurentinum as it was in his time. Of Scamozzi's Design I have given the Plan and Section. There is likewise a Plan by Fossati; and the Designs made by Castell, to all of these I refer the Student for they deserve his attentive consideration.*

This Elevation is from a Design made by Stevens, a pupil of the late Sir William Chambers and an Artist of great promise, made whilst pursuing his studies in Rome. (*Plate* 82.) (The plan is wanting.)

As an Architectural study, this Composition is entitled to great praise, but whatever its merits may be, it abounds with anachronisms, and has but little of the Character of the Architecture of the age in which the building was erected.

What Pliny's villa Laurentinum was, it is now difficult to determine; he tells us that it was contrived agreeably to the strictest rules of Art, and that the several Rooms were arranged for the full enjoyment of all the benefits of the different Seasons. These observations, from so elegant and learned a Writer as Pliny, makes it very important for the young Student to be as well acquainted as possible, with every part of this elegant retreat, for which purpose, I must refer him to Pliny's own words.

Laurentinum seems to have been the Villa Urbana first spoken of by Columella, answering to our Villa in its general acceptation, such, for instance, as the elegant retreat of the late Lord Burlington at Chiswick.

Laurentinum seems to have been his Country House of pleasure in the neighbourhood of Rome ** to which, after the fatigue

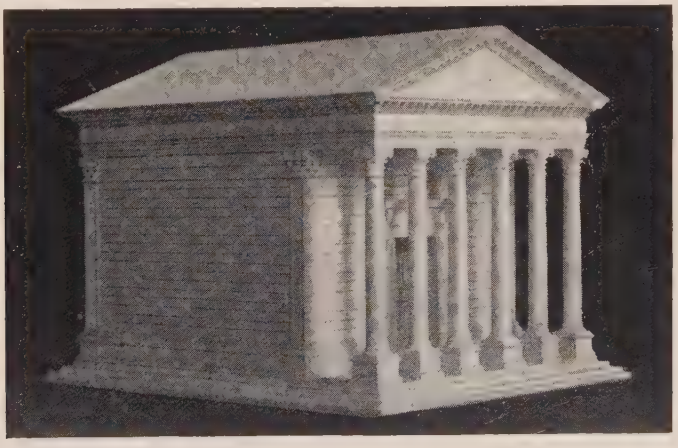
* The Modern Student will find them fully discussed in "The Villas of Pliny the Younger," by Helen H. Tanzer. (Columbia University Press, New York, U.S.A. 1924.)—*Editor's Note.*

** 17 miles distant on the shore of the Mediterranean near a Village and not too far away from Ostia, the Port of Rome.—*Editor's Note.*

of a Public life, he could easily retire. This Villa, in contradistinction to another of his Villas on the Lago di Como, he calls his *Villuta,* or little Villa, to which he retired expressly to unbend his mind, for he observes that his Library consisted of Books more for amusement than study. If such be the designation of a Roman Villa, wherein between Forty and Fifty Rooms for different purposes have been enumerated and many parts left totally undescribed; if the word "Villuta" is really to be understood "a small Villa," what ideas are we to form of the Magnitude, Expense and Magnificence of those Villas, which we are told contained Rooms for every purpose of Splendour and Convenience, such as those of Lucullus, Pliny, Pompey, Cicero, and other famous Romans.

If the Villas of individuals were so extensive, what must the Villa of Hadrian at Tivoli have been? Hadrian, eminent in Literature, Science, and the Fine Arts, having visited the most distant Provinces of his extensive Empire and erected Public Monuments in all of them, proceeded to adorn his Villa at Tivoli with an infinity of buildings peculiarly characteristic of the taste and manners of the different nations included in the Roman world. Temples, Theatres, Circuses, Baths, Porticoes, the Lycaeum of Aristotle, the Academia of Plato, the Prytaneum of Athens, the Canopus of Egypt, the Poecile of the Stoics, the Temple of Thessaly, the Elysian Fields, and the Infernal Regions, all these, surrounded with distinct and appropriate Scenery, were to be seen reproduced at Hadrian's Villa. This Villa in its perfect state must have presented an inexhaustible source of Variety, a superb Monument of Imperial glory. Of the effect of this great Combination we may form some faint idea from the buildings in Kew Gardens. . . . (*Plate* 84.) There, the confined space, it must be admitted, does not allow of the different buildings, being seen to advantage. So many are visible from the same point that the eye is rather fatigued than satisfied. At the same time while we regret that smallness of the objects, and their being so crowded together, it should be observed that many of these little edifices display so much elegance and classical purity that the young Students in Architecture will find these works of great use to them on their studies. . . To these and many other advantages the Artist is indebted to the munificence of the late Dowager Princess of Wales, and to the taste of His Majesty, King George the Third, the Patron of the Arts and Sciences, the Founder of the Royal Academy, and the Father of His People.

End of Lecture IX.



Restoration. Tomb Temple at Palmyra

LECTURES ON ARCHITECTURE

By Sir John Soane, r.a.

LECTURE X.*—GARDENS AND CITY PLANS.

Mr. President,—Having in the preceding Lectures treated of Villas, I shall now direct the attention of the young Student to the consideration of Ornamental Buildings suited to Parks and Pleasure Grounds; and, as Decorative Gardening is part of the practice of the Architect, and is, in fact, so treated on the Continent, it may not be improper to say a few words on that subject.

Gardening, or as it is sometimes called, Decorative Landscape Gardening, if not an Art, is an imitation of Nature, which has the power of giving highly finished touches; happy finishings to the picture the Architect has begun.

Gardening is particularly associated with Architectural Decoration; not only does much of the effect of the Mansion-house itself depend upon the propriety and suitableness of the surrounding scenery, but the same is true also of the various buildings, that custom now requires for the adornment of extensive Parks and Pleasure Grounds. . . Buildings, whether for use or decoration only, when well adapted and appropriately disposed, in situations corresponding with the natural or artificial Scenery, Extent, and Character of the place, cannot fail to heighten the general effect of the prospect, giving Interest and Variety to the whole domain.

The scenery of every different place, requires that the accompanying Architecture shall partake of its own character and special features. The Landscape and Buildings connected therewith, whether for use or ornament, must mutually assist each other for the taste and effect of ornamental buildings depend very much upon the surrounding Landscape.

Architecture being thus identified with Gardening it becomes a necessary part of the education of an Architect that he should be well acquainted with the Principles of modern Decorative Landscape Gardening.

For this purpose it may not be useless to the young Student briefly to trace Gardening to its state antecedent to that period when

> "Kent and Nature vied for Pelham's love."

Sir Francis Bacon, in one of his "Essays" observes that "planting a Garden is a goodly prospect, tempting to the view; the purest of human pleasures, the greatest refreshment of the spirit of Man; without which Buildings and Palaces are but gross handy-works."

Such, according to the Poet, was the first Garden we read of, planted and formed by the Almighty Architect of the Universe, the Garden of Eden, where,

> "Out of the pleasant ground he caus'd to grow,
> All Trees of noblest kind for sight, smell, taste."

In the time of Henry the Seventh so little progress had been made, and so little attention had been given to Gardening that twelve acres, formed into various square plots for Orchards, Vegetables, and Herbs, with Grass or Gravel Walks bordered with low Elms, neatly clipped, constituted the Royal Garden at Sheen.

In the Sixteenth Century the fashion was nearly the same; according to Lord Bacon, thirty Acres was sufficient for a princely Garden; the Entrance consisting of a Green Plot, Heath, or a natural Wilderness of Ten Acres. The Main Garden was a square space of Twelve Acres, having besides Alleys of Four Acres each on both sides. The four sides of the Garden were encompassed with a stately arched hedge, ten feet high, with Pyramids and fair Columns upon frames of carpenters' work, and provided with Fountains which spouted water from gilded or marble images.

Sir William Temple, writing about eighty years after Lord Bacon, tells us that the

* Read first time, March 9th, 1815.

French and Dutch manner of Gardening had made progress in this Country, and the style, probably, was not unlike this drawing of the Garden at Herenhausen near Hanover. (*Plate* 83.) The same author, noticing the Garden at Moor Park, describes it as the most perfect he has ever seen, and he also speaks of a square or oblong plot of Ground of Six or Eight Acres, on a descent with Terraces, as sufficient for a Garden. This enclosure, besides the Parterres near the House, should, he adds, be cast into Grass Plots and Gravel Walks with Fountains and Statues.

This account of Sir William Temple's, brings the History of Gardening to about the latter end of the Sixteenth Century, and in this state it continued until the Revolution in 1688.* From this period we must pass on to the time of Lords Bathurst and Cobham.

Those Noblemen at Oakley and Stowe first conceived and made considerable progress in that species of Gardening, which Sir William Temple more than glanced at, when, after expressing his entire approbation of the system then in use, conformably to the strict regularity of the Continental Garden, he adds " there may be other forms, wholly irregular, that may have more beauties than any of the others, but they must owe it to some extraordinary disposition of nature in the site, or to some great race of fancy, or judgment in the contrivance, which may reduce many disagreeing parts into some figure, which shall yet upon the whole be very agreeable."

This vision of what Gardens might be, together with Milton's description of the Garden of Eden, already acted on by Lords Bathurst and Cobham, was subsequently successfully pursued by Kent, and Bridgeman, and particularly by the late Mr. Brown. The natural powers, genius, taste, and judgment of Brown, under the auspices and guidance of Lord Cobham, were brought into full action at Stowe, and finally produced a total change in the manner of decorating Parks and Pleasure Grounds, effectually destroying every feature of the prevalent Dutch and French system as derived from Le Notre and other masters.

The dress and high finish, which this new order of things gave to every situation, aided by the love of variety, led to the introduction of Ornamental Buildings of different kinds. The Bower of Fair Rosamond, the Hermitage, the Grotto, and the Cave, were entirely banished, to make way for Grecian Temples and Chinese Pagodas.

Unfortunately for Art, the taste of the Buildings to be raised depended generally on the Gardener, who knew enough of Architecture to think with Mr. Brown and some of his followers that " the Architect might spoil his work, but could never add to its improvement." It sometimes happened, however, that Brown's Buildings were not very analogous to our Customs and Climate, nor much resembled what they professed to be. Sometimes, when the ancient model was insulated and environed with Columns, correctly rich in every part of its exterior, the copy only presented a front with a small part of each flank, the rest of the exterior being left as plain walls to be hidden in some degree by planting.

Miniature representations of Grecian or Roman Temples are too often placed in our Gardens, without consulting the genius of the place, and without a proper attention to those circumstances and scenery, which made the Architects of Antiquity prefer one style of building to another. Correct representations of the Temples at Segesta and Paestum, placed on a fine dressed lawn, surrounded by beautiful shrubberies; from the want of appropriate scenery would appear clumsy and misapplied.

Nor will objects, however beautiful in themselves, satisfy the classical mind, unless they are likewise judiciously placed. The beautiful Doric Portico, the elegant Palladian Bridge, or the lofty Chinese Pagoda may surprise the stranger, but they will, when improperly situated, soon lose their interest, cease to please, and only surfeit the eyes of those who are compelled to see them daily. (*Plate* 84.)

* The Garden Plans of Hampton Court (1689-1700) are given in Vol. IV, Wren Society.—*Editor's Note.*

Besides entire buildings of different kinds, Ruins are frequently introduced into Ornamental Gardening. When congenial with the scenery of the place, and its historical character, Ruins increase the variety and cause a pleasing diversity. . . . In Italy or Greece we constantly see the mouldering remains of Mausolea, Temples, Amphitheatres, and Aqueducts, and when the scene is enriched with "nodding Arches and broken Temples spread," such objects fill the mind with the most serious and awful reflections. The Mausolea of Hadrian, of Cecilia Metella, and Plautus, point out most forcibly the departed grandeur of their former magnificence, and dazzling splendour. Works that might have defied the efforts of Time are now with their battlements and embrasures, become mere monuments of the insufficiency of our endeavours, and of the mutability of all human expectations.

The Monument of the Horatii and Curatii fills us with respect for the Patriotic and Heroic deeds to which it refers. The remains of many towering Structures, broken arches, and massive Walls, bring back to our recollections interesting, important, and instructive incidents of History, calling forth all the noblest feelings of a sympathetic mind. The mighty ruins of a Column, whose enormous dimensions excites our attention, points out the fatal spot where the unhappy Nicias threw himself at the feet of the Conqueror, beseeching Gyllippus to stop the further slaughter of the brave Athenians, his comrades in defeat, thousands of whom were then bleeding before his eyes. When Ruins of buildings bring the recollection of such deeds fresh to the mind, as if then acting, we are truly anxious for Time to spare such Monuments, that the same effect may be produced to the latest Ages. Here there is no delusion, no imaginary colouring, and the effect on the mind is complete. If artificial Ruins of rocks and buildings are so cunningly contrived, so well conceived, as to excite such reflections and convey such useful, tho' melancholy lessons, then too much cannot be said in favour of their introduction on every occasion. Like the buildings of the Egyptians, covered with their hieroglyphics, such Ruins may be considered as Histories open to all the world.

Ruins, to please the Beholder, must present to the mind the recollection of some particular event, or some known fact of importance. They must appear to be the remains of what once really existed in the very place, or at least be analogous to it. They must tell their own story, or they will appear trivial and uninteresting. The remains of a Castle seen in a valley or plain cannot by any stretch of the imagination be supposed to have been placed there for any other purpose than mere decoration.

From representations of Roman Buildings seen in places that were not known to the Romans, no emotion of satisfaction can be produced. If, however, instead of Roman Buildings remains of Gothic Towers rise majestically among Forest Trees, "whose high tops are bald with dry antiquity," they can be pleasing features. The superb remains of an old Baronial Castle, an Abbey, a Cloister, or the Tower of a Church (as at Coventry), so situated as to present to the mind the idea that they are really part of something of great extent, which time and circumstance has spared, lead us to enquire into their history and induce the proper emotions of respect and reverence. We experience effects similar to that noble enthusiasm, which the sight of Roman Buildings in ruins, in the pictures of Claude and Salvator Rosa, creates in the mind. Recollections are aroused of former struggles for power, and of those revolutions in religious thinking, which have caused the destruction of so many noble efforts of superior greatness, as recorded in many of the pages of our past history.

In order that these artificial Ruins, mimic representations and portraits of objects, shall produce pleasing sensations there must be an appearance of Truth. A picture of any kind to please must be correct as to what it proposes to represent. In like manner a Ruin should not be so strikingly out of character, in respect of form and situation, as to show at once that it is but a representation and

not a reality. In a word a Ruin must recall to the mind the idea of real object and not be considered as a mere picture.

Nor is it sufficient that objects are picturesque in their forms and combinations, and enriched with a variety of tints, softened and harmonized into each other by the hand of Time. Ruins, evidently constructed for decoration only, in situation and character, where they cannot pretend to represent anything more than a heap of materials, broken into a great variety of agreeable forms, can never produce the requisite sensation. It is from the association of ideas that Ruins excite in the mind that our feelings are aroused. . . . When in our Parks and Pleasure Grounds we see representations of Buildings in ruins, with all the evidence of a laboured, artificial construction, perceiving immediately that they are there merely for embellishment, our minds revolt at once at the impropriety and we are unable to restrain a smile at the futility of the imitation.

Ruins representing the remains of Grecian or Roman Buildings, however beautiful and picturesque, can never be introduced into the Decorative Gardening of this Country. Nor perhaps can any other style of Composition be so effectively used as the Gothic, of which we have so many striking examples in the mouldering ruins of Castles, religious Houses, magnificent Priories, and extensive Cathedrals, still existing in so many parts of England.

The importance to the State of preserving the venerable Monuments of the Piety of our Ancestors, and of the Patriotic application of their wealth, has not at all times been duly appreciated.

Warburton, Mason, Essex, Bentham, and other eminent men of the last century, perceived the great Science and Beauty of those Works, and endeavoured to instil into the public mind the same enlightened sentiment and correct feeling. Their observations, however, were at first but little attended to, altho' ultimately they excited enquiry and created a desire to preserve those noble vestiges from further dilapidation and also to protect them from suffering by innovation and modern improvement.

The public mind having been impressed with the value of these works of art, Milner, Carter, Britton, Buckler, Mackenzie, and Repton, with other admirers of our Ancient Buildings, by their researches and publications, have since established the distinctive Character of each age. These gentlemen toiled successfully in the vineyard, so let us hope, now that their labours have been sanctioned by public approbation and patronage, that Lectures, confined entirely to the illustration of the Principles and Effects of the Architecture of the Middle Ages, will be publicly given. Premiums should be offered for Models and Drawings sufficiently large to show the great ingenuity and the uncommon boldness contained in the well combined Constructive System of the Architecture of the period. Such illustrations should give correct ideas of the combination and general effects of a species of Composition, whereof this Country exhibits so many splendid examples. . . . This would be of the greatest advantage to the young Student in the practice of his Profession.

In the course of these Lectures the great superiority of the Ancients over the Moderns has been frequently noticed. On the subject of Gardening, however, it must be admitted that the Modern Style is decidedly superior, as it leaves the Gardens of the Ancients, from all we know of them, completely in the background.

There can be no comparison between the stiff formal Art, unnaturally applied, of the one, and the finest effects of Nature, happily assisted by Art, in the other. The far-famed Garden of Alcinous, enclosed within a quick-set hedge, was no more than a small Orchard and Vineyard, with a few beds of herbs, and two fountains that watered them.

Pliny's Garden at Laurentinum, of which he boasts so much, is described as bounded by a hedge of box, and his walks of planes with canals. Box trees, cut into monsters, animals, letters, and the names of the Master and Gardener are a feature. In his Tuscan

Villa he talks of slopes, terraces, a wilderness, shrubs methodically trimmed, a marble basin, pipes spouting water, a casade falling into the basin, bay trees alternately planted with planes, and a straight walk, from whence issued others, parted off by hedges of box, and apple trees, with obelisks placed between every two.

Such was Pliny's description of his Garden, such in a great measure are the Gardens of Italy to this day, and if we examine the old Writers, wherever a Garden is spoken of, it seems to have been nearly of the same kind, the Orchard and Potagerie for use and pleasure. (*Plate* 85.)

From Shakespeare we learn it was the same in Denmark,

> "Tis given out that sleeping in my Orchard
> A Serpent stung me."

How great a contrast between the Ancient Gardens thus described and Milton's Garden of Eden, or Brown's great works at Blenheim Park, Claremont and many other places where the genius of the situation has been consulted. Where hill and valley fall imperceptibly into each other. The gentle swell, the concave and varied shape, the rudest waste, and the richest Landscape are all combined; and the Artist successfully,

> " helps the ambitious hill, the Heav'ns to scale,
> Or scoops in circling Theatres the vale;
> Calls in the Country, catches opening glades,
> Joins willing woods, and varies shades from shades,"
>
> (Pope, Essay 4th, l. 58.)

The whole combining so beautifully with the varied scenes of Nature that we cannot hesitate to give the palm of pre-eminence to modern Gardening.*

I must now leave that part of my subject which relates to Villas and their appurtenances and proceed to the consideration of Town Houses and Public Buildings. Here the young Architect will expect a wide field to roam in, with full scope for the exercise of his imagination and for the display of his taste. London, however, is now so overgrown and crowded, and the best situations are already so occupied by slight buildings, raised on Speculation, for a term of years, that it has become scarcely possible, at any price to obtain, in perpetuity, a spot of Ground so situated as to justify the Architect in recommending the purchase of it to an Employer of rank and fortune, sufficient to erect on it a magnificent Mansion for himself and his family.

By the prevalent and now almost general system of Leasing out large portions of Ground, for the purpose of raising Buildings on Speculation, the individual was sometimes benefited and no great injury was done to Architecture so long as it was confined to houses on a small scale. Now that the practice has been extended to the erection of Noblemen's Hotels and mercantile Residences of the first consideration, nay, even Meeting Houses and Chapels, the Leasehold System itself becomes abominable and fatal to the advancement of Architectural Taste. What is more important, it is opposed to sound Construction, whereby not a year passes without lives being lost through this wretched practice.

From short-sighted views of immediate gain many of our Streets are miserably narrow and confined, with cramped and crippled houses. Monotony in the exterior elevations and a far too general system of bad Construction has been thus made familiar to the Student, while the public mind is vitiated, and ultimately becomes reconciled to these miserable productions.

It has been contended by the admirers of this system of letting large tracts of Land on Building Leases, that, whilst the old parts of London as well as most old Towns, seem to have been produced more by accident, whim, or caprice than from any regard to individual convenience or grandeur of appearance; by this New System many of our Streets and Squares are formed with all possible attention to strict regularity. This may be true, but then it must be remembered that by this very regularity we have exchanged the grand effects of Architecture for disgusting insipidity and tiresome monotony. The old Town of Edinburgh by the variety

* Sir Charles Barry on his tour 1817-20 studied the gardens of Italy, and at the Villa Attree, Brighton, in 1829 broke the "English Garden" theory of the preceding half century, commencing the re-establishment of the "Formal Garden" in association with Architecture.—*Editor's Note.*

and breaks in the outlines of its buildings is more beautiful, and possibly not less convenient, than the New Town, with all its regularity and polish. Why should we not unite the variety of figure, the wild effects, the bold combinations of cultivated Art, with all the regularity displayed in the Ancient Architecture.

The late Mr. Gwynn, in his ideas for the improvement of London, has, with great ingenuity and labour, shown how many parts of this great Metropolis might be improved. Unfortunately his work has been too much overlooked, his noble ideas have been treated as Utopian, and his useful hints entirely unnoticed with the exception of one general suggestion, namely, the increased width that should be given to the Streets at their entrances, by cutting off the angles. This idea, at first view, may appear a trifling circumstance, yet it often increases considerably the beauty of the perspective. It breaks in a great degree the monotony, and in point of utility, its advantages in many cases are not to be calculated, particularly when instead of Gwynn's oblique lines, portions of the circle are used. This may be seen in many parts of the City of London, and from thence it has been copied in some of the Streets westward of Temple Bar.

The Artists of Antiquity had many advantages over those of modern times; the general Taste of the Ancients for great works, and the attention they paid to Talent of every description combined to give a decided superiority and importance to the Fine Arts; thence;

". . . . . Egypt saw,
Her second Ptolemy give science law,
Each Genius waken'd from his dead repose,
The Column swell'd, the pile majestic rose,
Exact proportion, borrow'd strength from ease,
And use was taught by elegance to please;
Along the breathing walls, as fancy flow'd
The Sculpture softened, and the Picture glow'd.
(Ann: Register. Vol. 5, p. 207.)

Thence arose the Colossus at Rhodes and the gigantic exertions of Dinocrates, who conceived the stupendous idea of transforming a mighty Mountain into an immense City.

In later times, Constantine, by transferring the Imperial Residence from Rome to Byzantium gave the Artists of that period the most effectual means of realising every idea that Architecture could boast. With what enthusiastic delight do we peruse the account of the numerous Palaces, Bridges, Temples, Colonnades, Triumphal Arches, and other Public and Private Works of every description with which he adorned his new City. If the barbarism of succeeding Ages has destroyed those proud monuments of human wisdom and grandeur; and their costly materials have been converted to the most ignoble uses, yet from the Writings of Procopius, and the Histories of that period, and from the mighty ruins still remaining of Palmyra, and Baalbec, we may still form some idea of Byzantium in its original splendour.

In place, however, of anticipations of such magnificent examples of rich Fancy and bold Imagination, and of similar flights of powerful Mind and magical Genius being realised in this Country, the Artists of our days must, I fear, entertain much more moderate expectations.

In the great Metropolis of this mighty Empire, to whom Europe owes its choicest blessings, we in most cases can only contemplate a prodigious extent of buildings of various descriptions, formed without any general Plan of Beauty and Convenience, and with an almost total disregard to National Grandeur.

These are not the most pleasing pictures and may occasion to the young Artist and to the lover of Architecture melancholy reflections. Particularly when it is recollected that London is the place where an impression as to state of our Art is first made, the spot from whence Art itself is expected to emanate. It is the place wherein the wealthy and enlightened of every class are congregated; it must therefore be considered as the great Theatre best suited for displaying the abilities, and calling into action the talents of the learned of every description. In all ages, however, business and pleasure in great Cities and populous Towns have been too often more attended to than the beauties of Architecture, thus while the truth of the observation of the Philosopher and Moralist

that "Every good has its attendant evil," is fully established, the Professors of the Fine Arts are left with little cause for exultation.

In this Country, building has become so expensive,* and the Architect necessarily so confined, that most houses are of moderate dimensions, wherein Convenience and Economy are alone to be consulted. Magnificence, Taste, and Beauty must be restricted to great National Buildings, Noblemen's Hotels, and the Mansions of a few rich individuals. Even in such buildings Magnificence and Uniformity are too often confined to the interior only.

In many of our Private, and even in some of our Public Buildings, on which immense sums have been expended, it has been on the interior. It has seldom happened that the exteriors of them have in any manner indicated the great expense that has been incurred in their construction, either as respects the Architecture, or the extent of the Building. Even when it is otherwise, they are frequently placed in narrow Streets so as not to be seen. . . . Who would expect to find a magnificent building in Warwick Lane, or one of the finest pieces of Architecture this country possesses behind such an enclosure as is here represented, or a magnificent Hotel shut out by such a gloomy foreground as this drawing exhibits.** (*Plates* 86-87.)

Some of the most expensive and highly decorated Houses in London are confined to three windows in front: such is the noble Mansion of Sir Watkin Williams Wynn in St. James's Square (*Plate* 107), and Lord Clermont's in Berkeley Square. Who from the sight of this plain, confined front would suppose it preceded the magnificent Staircase and highly enriched Ceilings by the pencil of Kent and other Masters? (*Plate* 71.)

Many other similar examples might be produced, and even in Houses whose fronts are more extended, as the Earl of Derby's House in Grosvenor Square, Devonshire House in Piccadilly, the late Duke of York's House in Pall Mall (now the Ordnance Office), the Duke of Leeds in St. James's Square, Camelford House in Oxford Street, the Marquess of Buckingham's in Pall Mall, Chandos House near Cavendish Square, and in many others there is the same disregard to external appearance.*

Some of these, otherwise superb, Mansions have brick, or plastered Fronts destitute of Architectural Ornaments, and suitable character. Another is distinguished by a fair stone facing, and the centre marked with a small porch of two, or perhaps four Columns reaching only to the height of the Ground Floor. None of these façades lead us to expect any internal grandeur, they only present a melancholy picture of the want of regard to Architectural effect in the exterior of buildings, although the internal distribution and decoration are frequently of the most expensive and elegant kind, and such as, in those respects, entitled them to the highest consideration, and most serious attention of the Student in Architecture.

This deficiency of Invention, this want of mass, quantity, and contrast of light and shadow in the exteriors of these buildings, together with the general poverty in the Materials and their arrangement, may be traced in several instances to a want of due consideration in making the fronts of Buildings accord in their general character with the internal finishings. . . . That Variety at least can be produced in limited fronts, the exterior of the British Coffee House at Charing Cross, noticed in a former Lecture, is a striking example. (*Lecture VII, page* 119, *Plate* 60.)

The frequent neglect of Composition in the external appearance of our buildings appears to arise from an improper view of the subject, for it cannot be supposed that those who bestow immense sums on internal decorations and suitable furniture, would be so totally indifferent to external appearance.

I am aware that it has been urged that by keeping the exterior very plain, and very subordinate, more Contrast is produced, and an additional Value given thereby to the

* Written at the close of the war period, 1815, under conditions repeated in our time.—*Editor's Note.*

** The Screen walls of Burlington House and old Montague House (now the B.M.).—*Editor's Note.*

* All destroyed except Leeds and Chandos Houses. —*Editor's Note.*

interior. Be it so, but it cannot be imagined that Architects, unless controlled by their Employers, would be so indifferent to the keeping up of that proper correspondence in every part of their Compositions by which alone can be created, by imperceptible degrees in the mind of the observer, an increasing interest as the Visitor proceeds through the Building, and an ultimate conviction that no part is unsuitable, but that all combine to make one uniform Design.

Will such an exterior as this Drawing * represents lead any person to imagine it to be one of the principal fronts of a Nobleman's Residence? Does it not rather indicate the exterior of an Hospital or an extensive Manufactory?

It is not only the contracted Front, the vulgar plainness, and indication of poverty of invention, in the exterior of so many buildings that gives the appearance of meanness and inconsistency in our Architecture, with which Foreigners reproach us. There are many other causes, particularly the general prevalent practice of placing several storeys one over the other, which is fatal to every idea of grandeur.

This must be the case occasionally, and particularly in large Cities and populous Towns, but it is a defect that necessity alone can sanction, for such Buildings can only appear like so many Boxes, or Chests of Drawers placed one upon the other, like the Steeple of St. Bride's Church. There is as much monotony in this Steeple as in some of our Streets of new houses.

To reconcile the eye to this sort of Composition and to make its defects as little felt as possible, Architects have had recourse to various expedients. In some cases each floor is distinguished by a fascia, continued along the whole extent of the front, as at Coleshill by Inigo Jones; and at St. Luke's Hospital. In this and in many other respects these two examples are Models to which the Artist will do well to give the fullest attention.

In other Buildings the Decorations of the Windows are connected together, without any separation between the different floors, as was the case in Fishmongers Hall by Inigo Jones. (*Plate* 88.)

Palladio in many of his Designs has used in the same front, two, three, or even four Orders of Columns, with a regular Entablature over each of them, so that each Storey may be strongly marked and sufficiently distinguished. This may be, and is, an effectual mode of separating the different Storeys, but it must be remembered that as the Cornice was originally intended to support, and protect the necessary projection of the Roof, and to discharge the water, it follows therefore that to place several Cornices in the front of any building between two, or more Storeys, is to present the idea of a Roof where no Roof could possibly exist. It is not only defective in Principle, but it produces that littleness and repetition of small parts that cannot be reconciled with any of the fundamental Principles deduced from the Ancient Architecture. (*Plate* 75.)

There is likewise another reason against this mode, in that as it becomes necessary to make each series of the Columns more slender than that immediately below, the uppermost Entablature becomes so small as to render the component parts scarcely visible from the ground. To obviate this defect, in many instances, the upper Cornice has been made an imitation of that of the Coliseum, and of the Theatre of Marcellus, of a height proportioned, not to the Order itself, but to its distance from the eye of the spectator.

Palladio is not the only one of those great Artists, who assisted in restoring Architecture to its ancient splendour, who fell into the practice of using several Orders in the same front. Michele san Michele in his works has occasionally given examples of this littleness of manner; but at the same time he seems, at least to have felt the impropriety that it occasions in that it makes the Cornice to the uppermost Order the smallest, accordingly, at the Palazzo Grimani, and in other places, he has obviated this defect by proportioning the height of the Entablature of the upper Order, not to the height of the Column itself, but to the entire height of the Building. In

* Bentley Priory, Stanmore, to which Soane added an entrance hall, etc.—*Editor's Note.*

this particular he has most judiciously followed the examples of our almost unerring guides, the Ancients.

Inigo Jones, after the example of Palladio, has on many occasions distinguished the different Floors by the Orders of Architecture. (*Plate* 62.) At the Banquetting House at Whitehall he has introduced two Orders of Columns, and in other parts of the different fronts of his Design for a Royal Palace, of which that building, raised as a specimen, made but a small part, he has increased the number of the Orders used. The defects of such Compositions have been noticed in a former Discourse. In these designs by Inigo Jones, the Floors being very lofty, some of the objections to the use of several Orders in the same front are removed, but in other works of that great Artist he has introduced three or more Orders, as at Castle Ashby, already noticed. (*See Lecture III, page* 55.)

The front of the Tuilleries, and the exterior of the inner Courts of the old Louvre are composed in this style, and altho' the respective parts of these buildings, as well as the buildings themselves, are considerably larger than those at Castle Ashby, the relative magnitudes retain the same character. The defects therefore are rather increased than lessened, and when the grand Front by Perrault is contrasted with these filigree works, how much is the greater superiority of this noble Composition at once apparent!

Inigo Jones having set the example of this feeble kind of Composition to the Artists of this Country, it has been too often followed, both by his contemporaries and by succeeding Architects: some indeed have surpassed him. In the front of the Public Schools at Oxford, as well as in some other places, the five Orders of Architecture are jumbled together one above the other, and since the erection of that building, we have had an example of three Orders of Columns in the same front with little better success than those in the Schools at Oxford.

The Circus at Bath,

"A circus that three ranks of Columns boasts,
Three ranks of Columns, like three ranks of Posts."

may please us by its prettiness and a sort of novelty, as a rattle pleases a Child, but the Area is so small, and the height of each of the Orders is so diminutive that the general appearance of the entire building is mean, gloomy, and confined. It is very inferior in effect to the crescent in the same City. What is justly admired on the large scale of the Coliseum, becomes uninteresting, nay even ridiculous, when reduced to the dimensions and extent necessary for a few modern dwelling houses. (*Plate* 89.)

If we compare these miniature buildings, having several Orders of diminutive Columns one above the other, with the great works of Antiquity we shall immediately feel the disadvantage at least, if we are not convinced of the absurdity of using more than one Order in the same front, excepting in Buildings whose magnitudes keep pace with the Amphitheatres and Theatres of the Ancients.

From the examples produced of Buildings with several Orders, it must appear clear that unless a building has something like the height of the Coliseum, or the Theatre of Marcellus, not more than one Order of Columns can be used without the Artist being censured for creating expense to little purpose; and it may be added that Columns in the fronts of small Houses can seldom produce much effect.

From the examples exhibited this evening and in former Lectures it will be seen how unsuccessful our attempts have been to transfer into Private Dwellings features which the Ancients used in great Public Works only. Wherever Columns are expected to produce all their effect, there should be no indication of Storey above Storey, but they should occupy the entire height of the Edifice as in Ancient Temples, and in some Modern Works. Nor should Columns of different dimensions be seen in the same front, whether placed on the same line, or on different levels; it is like comparing Giants and Pigmies, and both must suffer by the comparison.

If we look to the origin of Columns, and the different manners in which the Ancient Architects used the Orders of Architecture, it will be seen that they should always be placed near the Ground and not on high Basements, and further, that they should really, or at least appear, to comprehend only

one Storey in height. If, however, the height of the Column admits or requires two, or more series of windows, their decoration should be supported from the bottom, and be connected together by tablets, and mouldings. In such cases the different Floors cannot be distinguished, without sacrificing the beauty and propriety of the Column, by Fascias, passing from one column to the other and stopping against their Shafts. These projections destroy the beautiful and flowing Entasis of the Column, so much insisted on by Vitruvius.

Imposts, dying against the Shafts of the Columns, to arched windows and openings, as in the Theatre of Marcellus and in the Cortile of the Farnese Palace, are particularly open to this objection. This defect Palladio does not appear, at all times to have felt, for in some of his Works, where the Columns are made to take in two Stories (making Peristyles below and open Galleries above, for the purpose of communication), he has used a singular invention to support the floors of the Galleries, a species of Pilaster attached to the Column.

Something of this kind seems, according to the Translators and Commentators on Vitruvius, to have been used by that great Architect in his Basilica at Fano. If the Fascias and Imposts with their small projections are supposed (and most justly they are so) to injure, or rather to destroy, the simple beauty of the Entasis and flowing outline of the Column, how much more licentious must this kind of wen, or excrescence be? It destroys entirely the beauty of the shaft of the Column, and points out in a most powerful way the impropriety of using Columns in such situations.

Palladio has sometimes avoided this defect by using two Orders of Columns, as in the Chiericato Palace at Vicenza, and in others of his Works. (*Plate* 75.)

In various Buildings, wherein the Columns include the height of several Stories, the impropriety has been so far felt, that many Architects have avoided the use of large Columns in private dwellings and have had recourse to high Basements, on which they have raised Columns of considerable magnitude. Of this species of Composition, so very frequent in the works of the great Italian Architects, an example may be seen in the Thiene Palace by Palladio. (*Plate* 74.)

Palladio, who on most occasions introduced into his designs for Private Houses, as well as into his Churches and other Public Works, whatever he had collected from the ancient Temples of Paganism, has, however, in the use of Basements adopted a practice totally different. In the works of this great Artist we find many examples of this deviation from the Classical purity of the Ancients, as well as in those of Michele san Michele, Scamozzi, and Vignola.

Inigo Jones, treading in the steps of Palladio, introduced high Basements in Ambresbury House in Wiltshire, the Queen's House at Greenwich, and in many of his other Works. Lord Burlington likewise adopted them, and many succeeding Architects, satisfied with following the examples of those Great Men, have on many occasions done the same, as may be seen in Lord Burlington's celebrated Villa at Chiswick, Holkham Hall in Norfolk, Kedleston in Derbyshire, and in many other places. In London, Burlington House, Uxbridge House, Lord Irnham's House, and Lansdowne House, are instances wherein the beauty and effect both of Columns and Pilasters have been materially injured by the great Elevation of the Basements on which they are raised. It must be remembered that Columns, according to all the great examples of Antiquity, are always best placed near the Ground, and it may be set down as an axiom that a Column is never properly situated unless it unequivocably proclaims itself the Principal Object, which it can never do, when its base is raised far above the level of the Ground. This is not the only objection to high Basements, for if the Basement (of whatever height it may be), when Columns are placed upon it, can only be considered (as many great Architects have asserted), as a Zocle, or support for them, how can we justify any perforation for Doors, and Windows therein? Will not its apparent solidity be materially lessened, and one of the great

Principles of Grecian Art, on which all good Architecture is established, be entirely neglected?

Other examples of high Basements might be produced in buildings of importance, such as the Treasury next St. James's Park, various parts of Somerset House, particularly the Front next the Strand, where Sir William Chambers (in imitation of Palladio in the Thiene Palace), in order that the great Cornice, which crowns the Basement, should not, in certain points of view seem to hide the bases of the Columns, has raised the Columns on a low Pedestal, whereby altho' the Columns comprehend two lofty Stories, yet from the relative smallness of their height to that of the Basement and their distance from the eye, they appear merely as Secondary Objects. (*Plates* 91-92.)

This adoption of high Basements, with Columns placed upon them, however general, like many other rooted defects in our Architecture, arises out of a neglect of First Principles. It is due to the facility of copying what has been so often done: and to our paying a greater deference to the practice of the Restorers of Architecture in Italy than to the Works of the Ancients.

If Basements are used with Columns they must be regulated by the diameter of the Column. The Basement of the little Temple at Tivoli, and those of the Temple of Fortuna Virilis at Rome, La Maison Carrée at Nismes, and of many others in the best examples of Antiquity are all low, and happily proportioned to the height of the Columns placed upon them. (*Plate* 25.)

When Basements, whether high or low, are introduced into the fronts of Buildings, if half, or three-quarter Columns are placed on them, every Principle of good Architecture condemns the perforation of the Basement with doors or windows. If there is great impropriety (as has been already noticed) in perforating Basements, when they serve as supports to half, or three-quarter Columns, or even Pilasters, how much greater is the defect, and how much more censurable must it be, when those very Basements support Porticoes and Colonnades, as in the celebrated front of the Louvre, the Earl of Burlington's Villa at Chiswick, and the Mansion House in London?

However general the practice may be nothing can justify it in the eyes of those who attend to first Principles, and who feel the beauties of Ancient Architecture. To be fully impressed with the truth of what is here advanced we need only examine the practice of the Ancients. In the Temple of Fortuna Virilis, and La Maison Carrée, the Basements support half, or three-quarter Columns, but there are no perforations of any kind in either of them, nor in any of those which support the Bases of the Ancient Peristyles. I wish to impress this as forcibly as possible on the minds of the young Students, and I shall therefore endeavour to render the impropriety of the practice more obvious by contrasting the Temple at Tivoli, as it is, with a drawing of the same beautiful Edifice with Windows in the Basement. This example will be sufficient; the slightest view of the two Drawings will show how completely the perforations in the Basement destroy the Character, the Elegance, and Simplicity of the Original Work, and such will always be the effect of engrafting Modern Improvements on Ancient Works.*

Our attachment and sometimes too close regard to the precepts of Palladio, without referring to First Principles, have made very high Basements so very generally adopted in our Compositions. The respect with which we are early taught to look on the Greek Orders has in like manner made us desirous of introducing them indiscriminately on every occasion.

In the early ages the Orders were confined almost exclusively to the Decoration of Temples, that the utmost effect of Pomp, and dignified majestic Character should be given to Structures raised for the great purposes of Pagan Worship. Before therefore we apply the Orders of Architecture in the exterior of buildings for domestic purposes, we shall do well to pause for a moment and reflect that they were first used in Climates where it was

* This Lecture contains Sir John Soane's most characteristic doctrines and the student should follow out their effect in his Works, particularly in the case of the history of the Board of Trade (now the Treasury) in Whitehall.—*Editor's Note.*

desirable to exclude the too powerful rays of the Sun, and to produce shade and fresh air about the building. To these causes we owe the Peristyles of Greece and Italy, as well as those of Hindostan and China, but in our cloudy atmosphere there are not many days wherein the full force of the all cheering rays of the Sun are not desirable. Peristyles and Porticoes, which contribute so essentially to the beauty and convenience of Architectural Compositions in warm Climates, round our Houses are more disadvantageous than useful.

Porticoes, in modern buildings are sometimes useful tho' seldom magnificent, but if they do not produce both these effects it is because they are improperly situated. The Portico in the Entrance Front of Carlton House partook both of magnificence and utility, for by making the intercolumniation which determines the depth of the Portico twice as wide as the spaces between the Columns in front sufficient space was given for Carriages to draw up to the Hall door. If the object, as to Utility, is thus gained it must be admitted that the Beauty of the Portico is destroyed, nor is the idea original. It is worthy of observation that such a Portico exists at Palmyra : for what purpose it was constructed in such a climate, and at a period when the luxury of Carriages was unknown, I am not able to determine.

If Columns, when applied as in the examples referred to, do not satisfy the eye, how much less do those in Lord Archer's House in Covent Garden, or others in front of the Surgeons Theatre in Paris. (*Plate* 93.) It is much to be regretted that our attachment to the Greek Orders of Architecture sometimes occasions our employing them very improperly.*

The difficulties, and expense attending the use of Peristyles and Porticoes in the exterior of Private Buildings, whether in Town or Country, are not always to be surmounted. Where expense is not an object, and the Artist indulges himself in a very feeble appearance of the Ancient Peristyles, placing his Columns, comprehending one storey in height, merely in slight detachment from the Wall, other difficulties present themselves. The projection obstructs the light and takes away some part of the pleasure of the prospect, thereby, in the opinion of many, rendering the use of detached Columns almost, if not entirely incompatible with our ideas of comfort. To obviate this difficulty the beauty of insulated Columns is sacrificed, and half or three-quarter Columns are substituted in their place. Sometimes, from economical motives we descend even to the use of Pilasters, in order to preserve some faint glimmerings of Architectural Effect.

Semi-columns, or three quarter Columns, may be accounted for on principles of economy, but how are we to justify the practice of Michael Angelo, and others of the great Painter Architects, who in many of their works have buried a large portion of the entire Columns in the wall, leaving a small vacuity round about them. Surely this is as reprehensible as a Sculptor would be who, instead of placing his Statue on a zocle, or Pedestal, so that every part might be seen, should prefer burying half of it in the thickness of the wall.

These mutilations of the Column, these substitutions of the Pilaster for that noble Decoration are not to be justified on any Principle of Beauty or Taste. To reconcile them to the eye of the Artist, it may be said that, if they are less beautiful than the entire Column, they are at least less expensive, and thus furnish the Architect with the means of showing greater variety in his Compositions. Perhaps it may be added that, as in Sculpture there are different degrees of relief, the basso-relievo—the alto-relievo—and figures entirely relieved, so in like manner, Architecture may have its Pilasters, its semi, and three-quarter Columns, and Columns entirely detached. If three different degrees of relief in Sculpture are permissible in order to show the excellence of the Sculptors' Art, it may be asked why should not modern Architecture likewise, as well as the Ancient, be equally allowed its Pilasters, its half and three-

* Soane is here in revolt from the current practice of the day due to the example of Smirke, Wilkins, Nash and others.—*Editor's Note.*

quarter Columns, and Columns entirely attached?*

From what has been said by different Writers on Architecture, and from the examples of Modern Buildings, it is to be feared that the Column (the great feature in all the Orders of Architecture), can seldom be used with success in Private Works of limited dimensions, for although it will be admitted that there are no positive dimensions for the Columns (as in the human figure), and that its diameter must be determined by the Extent and Character of the building, yet if Columns are less than of certain dimensions they can never please. If they are too large, as at the Admiralty, or too small as in Chimney-pieces, Alcoves, etc., the eye is offended; hence it follows that it is in our great Public Works that we must chiefly look for those grand Effects, those noble Decorations which all admire in the great Works of Antiquity. Seeing that the highest Effects of Architectural Composition are chiefly confined to great Public and National Works, how much must the lovers of Architecture regret that our Public Buildings are so often crowded together, choked up with Houses and Shops, that no sufficient space is left to view them in the narrow and confined places in which they are frequently placed.

If descriptions are to be trusted, the great Works of Babylon, Memphis, and Troy were disposed in the most advantageous manner, whilst the superb Edifices of Imperial Rome must have suffered very materially from the irregular manner in which, according to the ancient Marble Plan of the City, they appear to have been placed. . . This irregularity in disposing great Public Works was not confined to Rome; the remains of the Cities of Palmyra and Baalbec and even Athens itself evince that they partook of the same defects.

In modern Cities, the same defects and inconveniences as to the situations of Public Buildings are almost always visible, those of London and Paris are full of examples of the most unaccountable neglect and inattention in this particular.

St. Paul's Cathedral, from a superstitious regard to its being placed due East and West (which, by the by, it is not after all) is seen obliquely and distorted from Ludgate Hill, or from a small opening at the upper end of Cheapside, and many of its beauties are obscured by the proximity of the Houses with which it is surrounded. (*Plate* 94.)

If to place Public Buildings in narrow confined Streets is an evil, how much greater is the inconvenience when the passages over Bridges in populous Cities are choked up with Houses. The Triumphal Arch, raised in honour of Augustus on one of the Bridges over the Tyber, increased the beauty of the Bridge itself, and occasioned no obstruction. This cannot, however, be said of the buildings that were on old London Bridge, until they were taken down, by a noble sacrifice of property made by the Corporation of London.

In the original Construction of this Bridge, there was only a Chapel in the centre, but the Saint being neglected and profit more attended to than devotion, the Chapel was afterwards converted into a House, which soon after led to the erection of two rows of Houses, with a narrow Street between them, to the entire exclusion of the sight of the River, except at the space occupied by the Draw-bridge. A measure more prejudicial to the health of the inhabitants could not have been devised, for the air that surrounds a River, being continually renewed by the current of the Water, must carry with it those noxious exhalations, which constantly arise from the filth of a great City.

How much it is to be lamented that there should be no regular and well arranged Plan, first for the general and systematic improvement of this great City, and secondly, to insure that all the new Streets and Squares should be properly connected with those already formed.

* This passage is a very good instance of Sir John Soane's power of seeing the other side of a question. Students may recall that he has already used the same argument in dealing with the Roman Triumphal Arches and the South Front of Kedleston, on which his front at Pitzhanger is based. Sir Charles Barry, while objecting to engaged orders as "walled up colonnades,' considered that the use of a margin, as in his reconstruction of the Treasury, went far to remove the objection.—*Editor's Note.*

The dreadful conflagration in the year 1666, afforded a fine opportunity of rebuilding the City, in a manner that would have added to its beauty and convenience, and at the same time have contributed to the health of the inhabitants. We can only lament that disputes about private property, and other causes, prevented the execution of Sir Christopher Wren's noble design for giving London that importance from its Buildings, it possesses from its Commerce. Altho' the great Plan of Sir Christopher Wren was not adopted, yet to his design for restoring London, and to the labours of Gwynn, may be attributed that spirit of improvement which, amongst many smaller effects has produced the alteration of the streets about Snow Hill, and of those in the neighbourhood of Temple Bar, and of Westminster Abbey.

That ingenious tho' neglected Artist, Mr. John Gwynn, in the year 1766, published a Work entitled "London and Westminster Improved, Illustrated by Plans." That Work, the production of an humble and modest Architect, laid the foundation of many of those great improvements, that have been made by succeeding, and more fortunate Artists, who enlivened by public patronage, and the cheering smiles of Royalty, have worked in the same quarry with poor neglected Gwynn, and by the exercise of their talents have made London and Westminster, as far as regards the Character of their Streets and Squares, to rival the most celebrated Cities of Europe.

End of Lecture X.

Arch of Hadrian at Athens

LECTURES ON ARCHITECTURE

By Sir John Soane, r.a.

LECTURE XI.—DECORATION AND COMPOSITION.

Mr. President,—I concluded the last Lecture by expressing a hope that the spirit of improvement, which had so happily shown itself in many parts of the Cities of London and Westminster, would be extended, not only to every part of the Metropolis, but to the utmost confines of this mighty Empire. To this spirit of improvement, embellishment, and utility, we owe the New Bridges over the River Thames, the extensive and magnificent approaches thereto, and the other improvements now in progress.

The want of due attention in the placing of our great Public Buildings was noticed in the last Lecture. It is not less to be lamented that in this great Metropolis, this emporium of Wealth, Public Monuments of National greatness are so few in number that it seems as if it were the general opinion that Architecture is unworthy of consideration. This was not the feeling of the Greeks and Romans for, while they duly appreciated Painting and Sculpture, Architecture was not neglected. Their Temples exhibited all the splendour of Architectural effects. In their Mausolea, whilst the highly sculptured Sarcophagus contained the body of the deceased, or the magnificent Urn decorated with Bassi-relievi his Ashes, the remainder of the funereal pomp depended upon the power of the Architect's mind. This is proved by the Pyramids of Egypt, and of Caius Cestius, the Mausoleum of Hadrian, and the innumerable Sepulchral Buildings on the Appian Way and other public roads leading to Rome, as well as those to be seen in the South of France, and other places. It is humiliating indeed to see how much more numerous, more extensive, and more magnificent the Public Buildings are in all the great Cities on the Continent, than in London and Westminster. Even St. Paul's, so justly venerated by those who feel the powers of Architecture, when compared with St. Peter's in Rome, altho' infinitely superior in all its external details, loses much of its importance when compared with that building, and is, as must be admitted, very inferior to St. Peter's as respects its interior. How superior in magnificence are the Churches of St. Carlo at Vienna, St. Sulpice and St. Roche in Paris, when compared with most of our Churches. (*Plate* 95.)

Unfortunately for the Architecture of this Country, instead of the Fifty Churches directed to be built in the reign of Queen Anne, we have erected a series of economical Churches, Chapels, and Meeting houses, in their external appearance indicative rather of buildings designed for mere Utility, than those dedicated to the purposes of Devotion.

If we look at the Palaces of the Louvre, the Tuilleries, and Versailles, they present an assemblage of elegant forms, and an appearance of princely magnificence, such as cannot fail of making a strong impression on the minds of Foreigners. When those truly Royal Residences are contrasted with St. James's Palace, and Buckingham Palace, what a falling off is apparent. The Buildings in which our Kings, Princes, and Noblemen are lodged are not very honourable to the Architecture of this Country. How justly do we merit the sarcastic observation of the Foreigner, who, on seeing Greenwich and Chelsea Hospitals, exclaimed, "the English lodge their Sailors and Soldiers in Palaces, and their Kings in Hospitals." (*Plates* 96-97-98.)

If we continue the comparison perhaps we shall not have any greater cause for triumph —the Garde Meuble, and the Surgeons'

Theatre in Paris, the Theatre at Bordeaux, and the other great Works on the Continent are models for our imitation. Alas! we have not anything to compare with them. The overwhelming grandeur of Paris, and other great Cities in France, is not produced by the Churches, Palaces, Hotels, and Public Squares alone; their Fountains and Reservoirs, in number and magnificence, are only inferior to those of Italy. What a contrast between these works and our wooden Pipes and Pumps! (*Plate* 100.)

It now remains to resume one of the subjects which in these Lectures has hitherto only been briefly touched on, namely, External and Internal Decoration. . . . . The subject of embellishment, opens a wide field for the exercise of the Taste, Fancy, and inventive Talent of the Artist. In this branch of his studies the young Architect is too often led astray, thinking that a profusion of Ornaments always increases the Beauty of a building. This is a mistake; for it is in Simplicity that all real Decoration is to be found. A multitude of Ornaments may materially injure, but can never improve the effect of any Composition. The great Beauty of Architectural Composition consists more in a due regard to Proportion, Symmetry, and Propriety of Form, both general and detailed, and in apposite Decoration, than in a great profusion of enrichments.

The Decorative System, amongst the Ancients, was held to be of such importance that their Architects were forbidden to use any Ornaments, for the introduction of which they could not account. Accordingly nothing was introduced into their buildings, which did not relate immediately to the mysteries and rites of their Religion, to their Political Institutions, or to the imitation of Nature, as exhibited in the vegetable, and fossil world, in foliage, fruit and flowers.

That whatever appertained to the sublime mysteries of Religion might be properly represented, we are told in Holy Writ that none but the Priests were to be allowed to work on certain parts of the Temple of Solomon. Ictinus also, and other great Artists, were in like manner duly initiated into the Eleusinian Mysteries, to enable them to execute certain parts of the Temple of Ceres at Eleusis, and other Edifices sacred to the Divinities of Paganism.

The Ancients assigned a totally distinct species of Decoration and Character to every different description of building. Thus Temples were of various forms, placed in different situations, and decorated with Ornaments, in all respects suitable and analogous to the peculiar Divinity, to whose worship and honour the Edifice was raised, such Ornaments being very different from those used in buildings destined to other purposes.

In the Decorations of Ancient Buildings we frequently see the representations of the heads and sculls of Oxen, with festoons suspended from them, and likewise the heads of Rams, Goats, and other Animals, which had been presented as propitiatory offerings, or in honour of the Gods. Similarly the Garlands, Wreaths, and Festoons of Fruit and Flowers, with which the Altars of the Temples and the sacred Animals had been adorned, are frequently represented, not only in different parts of Ancient Temples, but likewise in the Decoration of the Altars, Candelabra and Utensils belonging to them. Representations of winged figures were added as attributes to those Ærial beings, which, in the Mythology of the Persians and other Ancient Nations were considered as intermediate agents between the Gods and Men.

Sphinxes, likewise, emblematical of the mysteries of the Egyptian Theology, were held in such veneration by the people of that Country, that entire rows of those Chimeras of colossal dimensions formed Avenues leading to their superb Temples.

In the remains of Ancient Temples are likewise to be seen representations of Lions and the heads of Lions. Piranesi has given an example of rows of these animals which, like the Sphinxes already mentioned, formed an Avenue at the entrance of an Ancient Temple. This custom, which originated with the Egyptians, is by some thus accounted for. . . . The Astronomers, and people of Egypt in general, being great observers of the

Seasons, and the fertility of their Lands depending on the overflow of the Nile, that event was to them of the greatest importance. They therefore watched with attention every change in that beneficial agent, and observing that the greatest increase was on the Suns entering the Constellation of Leo, the Lion was from that circumstance first considered as the type of an Inundation. Afterwards that noble animal became one of the characteristic emblems of every effusion of Water, and the Water from cisterns and reservoirs, as well as from the roofs of Buildings, was contrived so as to pass thro' the Mouths of Lions, as was exemplified in a former Lecture, by a drawing of the Tower of the Winds at Athens. This latter circumstance is mentioned by Vitruvius, but he does not assign any reason for the adoption of the Lion's head.

Sphinxes and Lions were used in Decoration at a very remote period, as was likewise the Serpent; that reptile being considered an emblem of the Sun, of Time, and of Eternity. The Serpent was likewise sacred to Esculapius, and by the Egyptians in particular was worshipped as a Divinity.*

The Acanthus being considered an emblem of Fire, and a symbol of the punitive Being who, according to the cosmogony of the Scythians, created the world, the leaves of that plant were frequently used as Ornaments in the decoration of the Candelabra and other utensils of Ancient Temples.

The Lotus is another Decoration much used by the Architects of Antiquity in Sacred Structures. Of this plant there are various species, but the yellow and the white which grows in the rivers and ditches of this Island, the "nymphaea alba" that is found in abundance on the banks of the Nile, and the "nelumbo," which grows both in the East and West Indies, are the principal kinds. The Egyptians held the Lotus in high veneration, and having observed that it always appeared on the surface of the water when the Sun shone, and re-plunged into it when the Sun set, they conceived that there must be some considerable affinity between the plant and that great luminary, and therefore dedicated the Lotus to the Sun.

The Lotus was held sacred, not only in Egypt, but in the Heathen World in general, and Sir William Jones tells us that it is still held in the highest veneration in Hindostan.

For these reasons, in all the great Works of the Indians, Persians, and Egyptians, we constantly see Temples and Altars crowdedly embellished with Lotus flowers, and their Gods are frequently represented sitting on the leaves of this plant.

Amongst the almost infinite variety of Ornaments used in the Ancient Works, Eggs and Darts, and Eggs and Anchors occur more generally perhaps than any other. The frequency of these Ornaments has been supposed by many to have been occasioned by their reference, in the ancient Mythology, to the worship of the Sun, the Egg being supposed to represent the Mundane system, and the Darts placed between them, the rays of the Sun. The Anchor was in like manner used between the Eggs in the Temples dedicated to Neptune, one of his attributes being that of presiding over the Sea.

The Patera, being one of the symbols of goodness and benevolence, is therefore very often represented in the hands of their Gods as one of the attributes of Divinity.

However anxious the Ancients were to do honour to their Gods, they were not less so to show respect for the illustrious dead.

In the early times, mounds of earth were raised over the dead (particularly those who fell in battle) decorated with groves of Cypress and Laurel, rising majestically one above the other. These Mounds were frequently of enormous size altho' only one corpse was deposited therein.*

* *Note.*—The Persians worshipped the Serpent, being the symbol of their God Mithras.

The Snake and the Lizard apparently comprise the analysis of the Dragon.

Preface to the Tales of the 12th and 15th Centuries.

* *Note.*—Mounds of Earth are very ancient, indeed the most ancient mode of showing honour to the dead. Over the burial place of illustrious persons they raised a kind of Tumulus of Earth—"ingens aggeritur tumulo tellus."—Virgil.

This practice of raising barrows over the bodies of the deceased was almost universal in the earlier ages of the World.

Homer mentions it as a common practice amongst the

Many of the Mounds or Barrows in this Country, on being opened, have been found to contain the remains of only one person, and it is worthy of remark that this same form, and species of Decoration was used in later times when Marbles of various kinds were substituted for the less noble tho' not less honourable monuments of Earth; when expense was not spared and when the most magnificent Monuments were raised to perpetuate, not only the memory of great public characters, but of individual friends. . . .

In the interior of the Mausolea, Sepulchral Chambers, and other buildings destined by the Ancients for the reception of the dead, the Ceilings and Walls are generally enriched with various kinds of grotesque forms. Likewise, the fronts of many of the Sarcophagi, Vases, and Cinerary Urns are decorated with representations of grape vines, fig and ivy leaves, griffons, and sphinxes, with wings of birds, and tails of fishes, satyrs, birds of various kinds, and grotesque figures of different descriptions. We must not conclude, however, from any seeming incongruities and apparent want of analogy in these Ornaments that they were used arbitrarily, according to the whim and caprice of the Artist, for, if traced to Original Causes, they will be found to be conformable to some Custom or Ceremony, particularly or expressly relative to the practice of Ancients towards their dead.

The Ancients were equally attentive to Propriety, in the Character and Decoration of these great public structures, and in the Mansions of their illustrous Heroes and Citizens. . . . None of the Ornaments devoted to the Religious Rites and Mysteries of Paganism, nor those used conformably to the Customs and Ceremonies of Sepulture were ever seen in buildings raised for other purposes.

Instead of Ornaments so consecrated (if I may use the expression), the Curia and Basilica were decorated with Pictures and Basso-relievos recording striking instances of Heroic fortitude, Patriotic sacrifice, and severe Public justice; here a Mutius Scavola, there a Curtius, and in another part a Brutus offering up his Son to the severe justice of his Country.

Among the Insignia of Magistracy, which assisted to characterise the fabric, the axes and fasces were prominent objects, these, according to Plutarch, were tied together, in order to indicate the slowness in using them implied by the necessary delay in untieing them, whilst the binding up the axe with them (not in them as some suppose) indicate that what the rod could not correct, the axe must, and likewise, that he who was to suffer death by the axe, was previously to be punished with the rods.

On the same Principle, if a General obtained a Triumph, his garland of oak, his golden crown, all his trophies of honour, after the procession, became the great distinctive Decorations of his House, where they were hung up as lasting memorials of his worth and of the gratitude and regard of his Country towards him. Likewise those who distinguished themselves in the Public Games, Religious, or Political, were allowed to decorate their houses with the wreaths and crowns conferred on them by the applauding multitudes. The same distinction of Character in Decoration may likewise be traced in the Private houses in Pompeii and Herculaneum, and in the Villa Nigroni.

Upon these immutable Principles of Truth and Propriety, the Ancients, always anxious to honour their Gods, to respect their deceased Heroes and Statesmen, and to inspire others with a love of Military glory and true Patriotism, raised Temples, Mausolea, Trophies of Conquest, and Public Buildings of every kind of the most grand and imposing character. Infinite in number, boundless in extent and decorated with all the costliness that Art could devise, these Ancient works were built without confounding together the different styles appropriated to each.

All the riches of Architecture and her Sister Arts were thus called into action, in a manner most wise and politic, calculated to be the delight and admiration of their own citizens, as well as to attract the attention

Greeks and Trojans, Virgil likewise alludes to it, and Zenophon relates that it obtained amongst the Persians. Beloe's Herodotus, Vol. 3, p. 125.

and excite the surprise and wonder of strangers. Whilst such was the magnificence of these Public Works, the Private Houses of individuals of all classes were more distinguished by their elegant simplicity than by the costliness of their Architecture, or the sumptuousness of the Furniture. This did not, however, always continue, in the times of the Emperors, the distinctive characters of different Buildings were blended together, and profusion in everything became general. Luxury and Ostentation were then considered necessary, and made such gigantic strides as to destroy every Principle of True Taste.

Individuals of every rank were tempted to expenses far beyond their means, and some of the richest patrician families were ruined by the number, magnitude, and extent of their houses, and by the sumptuousness of the furniture which those superb buildings then required. They indulged themselves without calculating the expenses they were incurring, blinded by an inordinate passion to surpass their neighbours in parade and show.

Such was the progress of Luxury and Extravagance in the buildings of the Romans, that in their Villas, and Baths, intended at first for use, more than for ornament, that as we are told, they were not satisfied unless the floors were of silver and the ceilings shining with glass and glittering with precious stones. The Walls were incrusted with the Marbles of Numidia, and with the most expensive and magnificent inlaid Works, the various colours of which resembled Paintings. To all this magnificence were added innumerable Columns, supporting nothing, Statues, and a profusion of Ornaments of every kind. Such, according to Cicero and Seneca,* was the progressive effect of Luxury and Dissipation.

Having endeavoured to trace the Principles upon which the Decorative System of the Ancients was formed, let us now see how the great restorers of Architecture considered Decoration.

On the revival of Architecture three distinct modes of Decoration, taken chiefly from the remains of Ancient Edifices, were adopted. Firstly, the grand and massive enrichments, found in the Soffites and other parts of Temples, and Mausolea; secondly, the light Arabesques in Stucco, and, thirdly, the variety of painted embellishments, of which extensive remains existed in the ancient Sepulchres, the Baths, the Imperial Palace and Villas.

Each of these different modes were used in the buildings of the Fifteenth and Sixteenth Centuries, according to the fancy of the Architects, without always considering the Principles on which they were first employed by the Ancients.

Palladio, Scamozzi, and Vignola, based their Decorative System chiefly on the enrichments they observed in the remains of Ancient Temples. Introduced into many of their Works, whether Public or Private, these enrichments were seen alike in Churches, Palaces, and Villas. Those great Architects appear too often to have overlooked, and neglected, the lighter and more fanciful Decorations of the Ancients, with which Raphael, however, had been acquainted. Such Decorations occasionally transposed by that great Painter, his Scholars, and Contemporaries, into the Loggia of the Vatican, the Villa Madama, the Palazzo T., and other works of those happy days (wherein Painting united her powers with Architecture) banished paltry Ornaments and barbarous conceits, while classical Domes, Ceilings, and Walls of Churches, Chapels, and Palaces shone with all the noblest powers of graphic Art.

It is much to be regretted that the great Restorers of Art in the Fifteenth and Sixteenth Centuries had not visited Greece.* At that period many of the glorious works of that highly gifted people, which have since disappeared, or are daily now sustaining injury from the barbarism of the Turks and the rapacity of Connoisseurs, were then in being, and in a comparatively perfect state. It is still more to be lamented that so late as

* Common experience discounts the rhetoric of these and similar writers.—*Editor's Note.*

* The same remark applies to Sir John Soane himself who proceeded no further then Sicily and Malta during his two years in Italy, 1778-80.—*Editor's Note.*

the time of Piranesi, Grecian Architecture with all its superior elegance was neglected, or rather entirely misunderstood by the Italians, otherwise that great Artist could never have drawn such a parallel as he did between the Roman Works and the finest Monuments of Greece.

It is should be remembered, however, in extenuation of the Architectural Blasphemy of Piranesi, that he quotes not from the accurate and laborious representations of Stuart and Revett, who measured those proud remains of ancient glory to the thousandth part of an inch, but chiefly from the loose and imperfect representations of Le Roi, who visited Greece more as an Historian, than as an Architect. Piranesi is not the only great Artist who has been blind to the charm of Grecian Architecture. The late Sir William Chambers, having formed his taste on the buildings of Italy, was unable to eradicate early prejudices and fell into the same error. It is well known that even the most correct Drawings of Ornaments can convey but a faint idea of the taste, spirit and effect of the originals. It is therefore to be particularly regretted that accuracy of delineation was not thought necessary by those who have given us representations of Ancient Buildings.

Palladio visited Nismes when many of the remains of Antiquity were doubtless in existence, which have since been destroyed, but his representations of the Buildings and their Ornaments are so unlike those of Clerisseau, that at the first sight of them, we can scarcely believe that they were taken from the same Models.

In like manner by comparing the Frieze of the Temple at Tivoli, as shown by Palladio and Desgodetz, with what it really is, it would seem as if each of these representations had been made from different works, from recollection, or from a transient view only of the object. (*Plate* 101, *see also* 11 *and* 25.)

Having thus briefly considered how the Artists of the Fifteenth and Sixteenth Centuries availed themselves of the Works of the Ancients, let us now see whether those of this Country have given more attention to the Principles on which the Ancients composed their Buildings and Ornaments. . . The Architects of modern times have done no better, for they appear to have contented themselves with copying those who a few centuries before had transferred indiscriminately into their works whatever they found in the remains of Antiquity. For the first glimmerings of Roman Art we are indebted to Holbein and others, but their works being little more than copies of what they had seen in their own countries, I shall pass them over, and proceed to the time of Inigo Jones.

That great Architect, brought up in the School of Palladio, saw everything thro' the same medium. Accordingly his deference and respect for the example of his Master was such that he overlooked the lighter and more fanciful discriminative Decoration of the Ancients in their Private Dwellings, and saw beauty only in the remains of Ancient Temples, and in the works of Palladio. Whatever he there found was indiscriminately introduced into all his Works, whether Public or Private, alike in the Church, Villa, and Palace, everything was Roman.

Inigo Jones having introduced the taste for heavy Ceilings (the compartments of which were formed with regular Entablatures taken from the interiors of Ancient Temples), Monumental Chimneypieces, and every other kind of interior Decoration; the same Taste was blindly followed by Lord Burlington, whose regard for the Works of Palladio and Inigo Jones got the better of the refined and classical Taste, so often seen in other parts of the works of that accomplished Nobleman. Such was the influence of Lord Burlington's example that the same Taste for heavy Decorations continued, occasionally mixed with a most strange and preposterous attempt at something new in internal Decoration imported from France. (*Plate* 61.)

This species of Decoration consisted of flat surfaces scrawled over with short arched lines and twisted curves, with simple and inverted C's and tangled semi-circles. These poor, fantastic and awkward, conceits, however, satisfied the Frenchmen of that day, and were much in vogue in this Country, being

sometimes executed in Plaster and at other times in *papier machée*.

At the very time when these miserable apologies for Decoration seemed to have become general, fortunately for Art, Stuart and Revett, those great luminaries, returned from Athens, and began to overturn the dreadful bad Taste in Decoration, which was spreading its baneful influence in every direction.

But it is to the activity of the Messrs. Adam that we are more particularly indebted for breaking the talismanic charm, which the fashion of the day had imposed, and for the introduction from Ancient Works of a light and fanciful style of Decoration, better suited for Private Buildings, and the elegance of modern refinement. This Taste soon became general; everything was Adamitic; buildings and furniture of every description. However well adapted this style might be to internal embellishment, it was ill-suited to external grandeur. The Messrs. Adam had not formed their Taste on the best examples of Antiquity, and therefore using the same style in Public and Private Buildings, internally and externally, they did not retain the favourable opinion of the Public to the extent expected. If, in no instance, amongst the various opportunities afforded by their numerous and extensive works, did they ever reach the sublimity of the great Restorers of Architecture, and if they did not sufficiently distinguish the difference of character between Public and Private Works, at least they banished from the interior of our buildings, the clumsy Tabernacle frame, the heavy Cornice, the ponderous Entablature, and the monumental Chimneypiece of Inigo Jones, Kent, Gibbs, and the whole train of their humble imitators. However, Mr. Adam may occasionally, in his flights of fancy have descended to trifles, and given an elegance and an importance to a Sedan Chair, or to the Keyhole of a Lady's Escritoire, let us, in candour and justice to departed merit, remember that in the preceding age, the great Portrait and Landscape Painter of his day, Kent—Kent, the father of modern Gardening—Kent, who was respected for his Architectural productions, was likewise consulted for designs for State Coaches, City Barges, and Children's Cradles. He was so far the oracle of the day, the arbiter of taste, that the very petticoats of the Ladies were under the observation of the Architect, and embroidered from his designs, whereof two are particularly mentioned by the late Lord Orford, the one, decorated with the five Orders of Architecture, the other, a copper-coloured Satin with Roman Ornaments worked in gold! Before we censure the improper use of the Ancient Decoration, and smile at Kent's extravagant and ridiculous application of the Orders of Architecture and his golden Ornaments, let us examine whether in later works, in those of our contemporaries, or even in our own, we may not discover improprieties in the use of the inventions of the Ancients at least as great, altho' of a different kind.

It has been already observed that the Ancients paid strict regard to the preserving of their Decorations on all occasions distinct: those which related to Religious Rites and Ceremonies were appropriated by the Ancients exclusively to the external and internal Decorations of their Temples, whilst those which had a direct or indirect allusion to the state of the dead and to the ceremonies observed towards them were as cautiously confined to places of Sepulture. However beautiful in form, none of those Decorations are to be seen (at least in the best times of Antiquity) in any other description of building or for any other purposes. The Ancients well knew the necessity of preserving them inviolate, and of making distinctions in the Forms, Decorations, and Embellishments of Sacred and Sepulchral, of Public and of Private buildings. Without these marked distinctions, no difference of Character would have been seen in their Works, and whatever their merit, they would never have been objects of admiration in succeeding ages.

If such was the practice of the Ancients, whom we profess to copy, how it is possible to reconcile our Decorative System?

In the Ancient Works everything is consistent. In Modern Works, in this Country and on the Continent, the whole System seems

founded on Principles entirely arbitrary, the offspring of chance and fancy uncontrolled by rules, Ancient or Modern. Thus the Sphinxes, the Lions, and other Ornaments, sacred to the Temples of Paganism, the various embellishments peculiar to the Mausolea of Antiquity, and likewise the Vases and Urns wherein the Ashes of the dead were deposited in the Catacombs and Sepulchral Chambers, all these different Decorations are now used, not only in the exterior and interior of our Buildings, Sacred or Secular, Public or Private, but in our furniture as well. Even semi-vases, a species of decoration unknown to the Ancients, are now very frequently stuck against the flat surfaces of Walls, as substitutes, or rather as the shadows of embellishment. Such is the rage for the Ornaments of the Ancients that whatever the Greeks and Romans used is become so common with us, that not only our Public Buildings, but the fronts of half the Shops in this great Metropolis, are crowded with the imitations of those very Crowns and Wreaths, which in Antiquity decorated the Victors in the Olympic Games. Such Trophies, such honorable marks of distinction were perfectly consistent with Ancient Customs, and wherever they were seen, they indicated the achievement of some praiseworthy deed and thereby attracted the attention and gratitude of the Citizens, but as usually applied by us they are absurd in the extreme.

I trust enough has been said in this and in the former course of Lectures on the subject of Architectural Decoration in the exterior and interior of Ancient and Modern Buildings, to call forth a spirit of enquiry in the minds of the young Artists, and prevent them from blindly copying into Modern Works whatever they find in the remains of Antiquity, without first recurring to the Principles, on which the Ancients composed and applied their various embellishments, and thereby to assist in fixing a correct Standard of Taste in Architectural Decoration.

If such strict regard to Character and Variety is to be found in the Decorations, Plans, and Exteriors, of Ancient Buildings, how much more it is to be lamented that we have neglected to follow such excellent examples.

There is a fashion even in Architecture, the building of any Great House gives, for a time at least, in its neighbourhood, an impression, and others follow the example, be it good or bad.

Colin Campbell, an Architect of the last Century, the well-known Compiler of the *Vitruvius Britannicus,* has in that Work given Designs after the Palladian fashion, and others in imitation of Inigo Jones. Imitations of Masters is not required in Architecture. Poets amuse themselves in this way, but I know not why Architects should. It may make them humble mannerists, but this method of study will never make a great Artist. It is the road to mediocrity but not to Fame's most dignified Niche. He that only copies or imitates will always be left behind. Garrick himself at second hand would not be admired, and, what is more important, could not produce originality in others. Besides these imitations of Palladio and others, Colin Campbell has given us a Composition, which, to prevent the possibility of the Character proposed to be represented being mistaken, he tells us is "a Design in the Theatrical Style," in imitation, it may be supposed, of some of the early Painters, who to their representations of animals and human figures added a scroll whereon was written "I am a dog"—"I am a Man." Apart from the examples quoted and some other similar efforts, to be found in different publications, such has been the almost general neglect of attention to Destination and Character in English Buildings, that Students in Architecture might have concluded that Character was not expected, or even thought necessary, in Modern Works.

It has been said by Foreigners, and perhaps with too much truth, that the Architecture of England, is in general so very deficient in Variety that it seems as if all our Architects had but one mind and manner. Whoever examines our Buildings, Public and Private, with due attention and critical accuracy, will soon be satisfied of the justice of this charge, and will perhaps at the same time be astonished to find so little Movement in the

Plans, such a general deficiency of Variety in the outlines of the exterior, and such neglect of distinctive Character in the general divisions and forms of which they are composed. This amounts to a total inattention to that Discrimination so essentially requisite to designate the intentions of great Artists. The Ichnography of many of our Buildings consists of a series of squares and parallelograms, and the exterior is formed of discordant parts without that due Connection, so necessary to constitute an entire and perfect whole.

Sameness and monotony are too general in most of our Homes; if the principal front admits of three Apertures in a line, it is usually divided into three parts, a Door in the centre, and a Window on each side. If the front admits of space for five Apertures in a line, it is divided into three parts, with a Door and two Windows in the centre, and one Window on each side. If the front is of sufficient extent to receive seven Apertures in a line, it is divided into three parts, and the centre takes three of the Openings, and each of the sides two. If the front is of greater extent and admits of Nine Apertures on a line, it is sometimes divided into three parts: and sometimes into five parts: in the first case, three of the Apertures are given to the centre, and three to each side, and in the other, three to the centre, two on each side the centre, and one at each extremity. If the front is still further extended and sufficient to contain Eleven Apertures on a line, and few Corps-de-Logis exceed that number, the whole space is divided into five parts, and five of the Apertures are in the centre, one on each side, and two at each extremity; or sometimes three of the Apertures are given to the centre, three on each side, and one at each extremity. All these fronts, which are those of buildings actually erected, have a Pediment in the centre, and at a small distance appear as on the same plane with perforations for light, ingress, and egress.

The last drawing exhibited is a representation of Devonshire House, Piccadilly, which, altho' the residence of the Duke of Devonshire and the production of Kent, is notwithstanding, constructed entirely with Bricks and with stone dressings merely, for its external decorations. How inferior in magnificence to the Chigi Palace in Rome, the residence of a personage of similar rank.

If the Corps de Logis is extended so as to admit Thirteen Apertures, the division in front is usually like the last design; five of the Apertures are assigned to the centre; three on each side, and one at each extremity.

If our attention is directed to Fronts of more importance and of greater magnificence we shall find in nine out of ten, no greater Variety or deviation from the designs before you than the addition of Porticoes. These Porticoes in the old School generally consisted of four or six Columns of the Ionic or Corinthian Order. According to the fashion of the present day, the Columns are of the early, heavy, massive Doric, exploded by the Greeks in their later Works, even in their Temples. The deep Entablature, with its great projection, shuts out the light and sun from the upper rooms, and certainly, however appropriate to the Solemnity and Gloom of a Heathen Temple, it ill accords with the Character of an English Villa.

In some of the more extended Fronts of Eleven or Thirteen Apertures in the same line, the centre is not only adorned with a magnificent Portico, but the extremities are likewise enriched with corresponding Columns or Pilasters. Whether the one or the other is made use of, the Entablature, however heavy, is the same by necessity, so that the same Quantity, and Form, which required and was originally designed to be accompanied and supported by Columns only, is here placed over slender Pilasters, which thus overloaded seem pressed and sunken into the wall itself, by the weight imposed on them.

This impropriety of application from the Antique must strike every person, and teach us the necessity of thinking before we blindly adopt what we find in the remains of Antiquity.

In these buildings the general Feeling is the same, the same Insipidity and want of Variety is apparent in a greater or lesser degree, both in Outline and in Decoration. In many, even of those constructed with Stone

and Decorated with the Orders of Architecture, the Doors and Windows are sunk in plain square recesses without any relief, whilst in the Gothic buildings we constantly see the most picturesque, fanciful, and ingenious play in the Sublime, and a Variety and Breadth of effect in the Decoration of the subordinate parts.

These considerations, amongst many other more important motives, will lead the Architect to a study of the Gothic Buildings for Effect, as well as with respect to Construction.

Having shown the general style of the Composition of the exteriors of different Houses, the interiors of which abound with comforts and conveniences (however destitute their outsides may be of Taste and Architectural Effect) candour itself must admit that the frequent repetitions of such buildings as these examples, must be extremely tiresome, and finally disgusting. The numbers of them, either constructed or to be met with in books of ideal designs, are such as no person could imagine without looking closely into the subject; whilst the number of those wherein any Character and Variety are to be met with, is comparatively small indeed.

Having shown different fronts of Houses finished with a Pediment in the centre of each, very different from the practice of the Ancients, I shall now offer two specimens of Elevations more congenial to First Principles.

The House of the volatile and witty Sir John Vanbrugh at Whitehall was on so limited a scale that it excited the mirth and derision of the contemporary Wits. Their criticisms, however, were not just; even Swift, with all his antipathy, or rather jealousy, of Vanbrugh, was compelled to say, speaking of this very House,

> ". . . . . 'tis owned by all,
> Thou'rt well contrived, tho' thou are small."

The front, however small, contains the same number of general divisions, and at least as much Variety of Outline as the magnificent Palladian Mansion in Piccadilly, that of the late Lord Burlington. The straight line, which terminates each of these buildings, accords most admirably with the general style and features of the Architecture, and this indication of a flat roof or terrace will always succeed, wherever Quietness of Character is aimed at, and the building is viewed at a small distance, or confined with projecting Wings. (*Plates* 102-103.)

This is not, however, the general Character of Sir John Vanbrugh's Architecture, who, for Invention, has had no equal in this Country. Boldness of Fancy, unlimited Variety, and Discrimination of Character mark all his productions. He had all the fire and power of Michael Angelo, and Bernini, without any of the elegant softness and classical delicacy of Palladio and his followers. The young Architect, by studying the picturesque effects of his Works will learn to avoid the dull monotony of minor Artists, and be led to think for himself and acquire a Taste of his own.

Vanbrugh's Works are inimitable examples of the power of Variety of Outline to please. A Building to please must produce different sensations from each different point of view. These effects will never be completely attained without Variety in Heights as well as in the projections. It is chiefly the Inequalities of Height which produce that prodigious Play and Movement in the Outline, and make the Edifice important in very distant points of view. As we approach nearer to the building it should still improve upon us when we are sufficiently close to perceive all its parts in detail. Such was the manner in which our forefathers designed their buildings, such was the effect they frequently produced. (*Plates* 78-81.)

Many other examples besides these might be selected, but time will not permit, and indeed these, I trust, will be found sufficient for the information of the Student, and for the illustration of what I have advanced. I must add, however, that every building, notwithstanding its front being extensive and rich, without these Varieties in the Heights, will always, when viewed at a distance, be regarded as a heavy, uninteresting lump.

Too great a Variety of Parts and Movement in the exteriors of buildings, as well as in their plans, is to be avoided as much as monotony. Variety may be carried to excess, by too many breaks and divisions, by a repetition of curves and undulating forms

running into each other without proper repose. The general effect is weakened, and the whole becomes confused instead of producing that Movement and Variety, which creates the most pleasing sensations and gives the spectator an interest in the work before him. A Composition, overcharged, altho' it may please the ignorant, will not fail to make the judicious grieve. This false Taste, or rather want of Taste, has not been confined to the Works of Boromini, Vanvitelli, and Fuga; the Church of St. Mary in the Strand, by James Gibbs, is a very forcible example of it. This building is divided and subdivided into so many parts, and so crowded with Decorations of every kind that it justly provoked the Poet's observation,

> "As when the wit of some great genius shall
> So overflow as to be none at all."

The small Portico of this Church, however beautiful in itself, is disproportioned to the rest of the building, and unmeaningly placed. There is no principal feature to arrest the attention of the spectator, which is as necessary in a building as in any other Composition. In every Poem we seek for a distinguishing and chief object; in every Picture, a principal figure or group, a principal colour, a principal light, to which every other must be subservient; from these as so many radii, the other parts diverge.

That Gibbs had no fixed Principles is most clear, when it is recollected that he not only built this Church, but likewise that of St. Martin in the Fields. (*Plate* 118.) The first of these buildings imitated, or rather was copied, from the Basilica of San Giovanni Laterano in Rome, the other, exclusive of the noble Portico, partakes of the fashion of the day, to which Gibbs himself contributed greatly by his rustics, consoles, and other incongruities. In the flank elevation the deeply recessed Columns produce a contrast with the Pilasters and a breadth of light and shadow that satisfies the Classical eye.

We have only to regret the interruption caused by the discordant, unmeaning, and clumsy rustication of the Doors and Windows. In this Church there is sufficient Variety to keep the mind employed with an Uniformity and Simplicity that reminds us of the Temples of the Ancients.

Between these two structures there is no similarity in the Composition, none of that legitimate resemblance that generally occurs in the works of every artist.*

Homer stands confessed, not in the Iliad only, but also in the Odyssey, and so is Milton in his "Paradise regained," and in his other Poems, as well as in the "Paradise Lost." Similarly the particular manner of the Architect can be seen in all his works, if he have Taste and Genius, for every Artist must form a style of his own.

The Church of St. Mary in the Strand is a striking example to show how effect and interest are destroyed by breaking the surfaces of the work into a great number of parts. The surface of this building is broken into a multiplicity of heterogeneous forms and crowded with every possible variety of Decoration, entire Columns, portions of Columns, Pilasters, Pediments, Niches, Semidomes, and other Ornaments.

It is not sufficient that the principal masses of the Composition are well considered, the attention, study and labour of the Architect must extend to the smallest, subaltern and accessory parts of his work. It is by particular consideration of the most minute parts of a building, in its Decoration, Distribution and Construction that the Architect displays his talents and renders his work perfect in Solidity, Convenience and Magnificence. The man of a common mind, when entrusted with the execution of any building, will give his attention chiefly to the great points only, the parts which every one sees; the man of Genius and True Science looks further: he considers the most minute parts of conse-

* James Gibbs (1682-1754) had been with Fontana at Rome for several years, and St. Mary's his first work bears the relation of model, in point of scale, to the buildings in Rome that he had studied. The student attracted by the prettiness of St. Mary's and possibly annoyed by Sir John Soane's criticism, should analyse the respective dimensions of St. Martin's and St. Mary's. He will see that whereas the former looks larger than it is, the latter looks smaller. If St. Mary's were twice the size it would gain, and it would still be only two-thirds of the height of the façade of St. Peter's.—*Editor's Note.*

quence, and his attention will be directed accordingly:

"Still follow sense of every Art the soul,
Parts answ'ring parts shall slide into a whole."

The young Artist must feel the importance of avoiding too much as well as too little Variety in the parts of his Composition; both extremes are bad: too much, will lead him to adopt the extravagant forms in the works of barbarous times, and to imitate Piranesi's design for a Roman College before noticed, wherein want of space, inconvenient distribution, and increase of expense without a corresponding effect are the characteristic marks. The Artist must not be too tame either; he must suit the Building to the place, and the place to the Building. In all his Compositions there should be a playful Variety in the exterior, and as many successions of different Figures in the Plan as Convenience will permit, and proper Economy sanction.

In extenuation of the monotonous appearance of modern buildings, the Ancient Works have been charged with the same defects. There are persons, says Sterne, who will travel from Dan to Beersheba and cry "it is all barren"; so there are some men, who in the mighty ruins of Antiquity can discover nothing beyond large masses of marble, stone and brick. We complain, but most unjustly, of the want of Variety in the Ancient Works, for whoever looks at the Pantheon, the Temple of Minerva Medica, the Marble Plan of Rome, the remains of the Imperial Palace, the ruins of the Villa of Hadrian, will probably draw a different conclusion, one favourable to the wonderful Variety, and enchanting Combinations of the Various Parts of those stupendous Works yet remaining. If any credence is to be given to the existence of the Temples and other Buildings described by Soria, as partly existing in his day, we may condemn many of them for extravagance of design, but we can never ascribe Monotony to them. If the Plans of some of the Greek and Roman Temples in many respects resemble each other may not this similarity of form be ascribed to their veneration for Religious Customs, and Sacred Rites, or other like causes.

Sir Christopher Wren's favourite design for St. Paul's, which consisted of one Order of Columns only in height, we are told, was rejected by the Bishops, because it was not in their opinions sufficiently in the style of a Cathedral. On this head the Artist can have no opinion. Regard for the great emblem of Christianity, the Cross, determined the form of all the Cathedrals that have been erected from the days of Constantine to St. Genevieve at Paris; not one of them but what is in the form of a Cross, either Latin or Greek.

It is true that in the Plans of some of the old Churches we have occasionally deviated from the Cross and borrowed from the Temples of Paganism, the elegant figures of the Circle and Polygon. In later times, there are, I know, several examples extant of this adaptation, effected, however, with great difficulty and exertion on the part of the Artist, to show the beauty and superiority of those figures. (*See Plate* 57.)

Besides the defects arising from this monotonous appearance of many of our buildings, and a general want of invention, there is another, which grows out of the want of that Correctness and Distinctive Character, so visible in the works of the Ancients, and without which, Architecture becomes little more than mere routine, a mere mechanical Art.

So requisite did the Ancients consider this attention to Distinctive Character, to make a perfect and beautiful Composition, that even in the very steps to their buildings they regarded it. Those to the Temples of the early Doric Order were of larger dimensions, both as to rise and tread than those which were afterwards used when the Doric Order became less massive. In like manner the steps to the Temples of the Ionic Order were still less, and upon the same Principle those of the Corinthian were lower in their rise and narrower in the tread.

Too much attention cannot be given to produce a distinct Character in every building, not only in the great features, but in the minor details likewise; even a Moulding, however diminutive, contributes to increase or lessen the Character of the assemblage of which it forms a part.

Character is so important that all its most delicate and refined modifications must be well understood and practised with all the fine feelings and nice discrimination of the Artist. He who is satisfied with heaping stone upon stone, may be a useful Builder, and increase his fortune. He may raise a convenient House for his Employer, but such a man will never be an Artist, he will not advance the interests or credit of the Art, nor give it importance in public estimation. He will neither add to its powers to move the soul, or to speak to the feelings of mankind.

Notwithstanding all that has been urged to the contrary, be assured my young Friends, that Architecture in the hands of men of Genius may be made to assume whatever Character is required of it. To attain this object, to produce this Variety it is essential that every building should be conformable to the uses it is intended for, and that it should express clearly its Destination and its Character, marked in the most decided and indisputable manner. The Cathedral and the Church, the Palace of the Sovereign, and the dignified Prelate; the Hotel of the Nobleman; the Hall of Justice; the Mansion of the Chief Magistrate; the House of the rich individual; the gay Theatre, and the gloomy Prison; nay even the Warehouse and the Shop, require a different style of Architecture in their external appearance, and the same distinctive marks must be continued in the internal arrangements as well as in the decorations. Who that looks at the interior of St. Martin's Church, and observes its sash-windows and projecting balconies at the east end, but is inclined rather to imagine himself in a private box in an Italian Theatre than in a place of Devotion. (*Plate* 104.)

Without Distinctness of Character, Buildings may be convenient and answer the purposes for which they were raised, but they will never be pointed out as examples for imitation, nor add to the splendour of the Possessor, improve the National Taste, or increase the National Glory.

The want of proper Character and appropriate Magnificence in the buildings of this wealthy metropolis is not confined to the exterior form and interior distribution of single structures, but is almost general.

In the outlines of our public Places, or Squares, we seldom venture beyond the rectangular shape; the Crescent, the Circus, or Polygon are seldom used. The reason is obvious; when a large tract or parcel of ground is to be applied to the purposes of building, or if a neighbourhood of houses is to be new modelled, it is usually left to the pleasure of the Builder, or person who takes the ground upon a Lease for Building. On such occasions, when by some fortunate circumstance, an Architect is consulted, he naturally feels desirous to avail himself of the opportunity, and recollecting the great Squares and Magnificent Buildings in Rome, Vienna and Paris, he endeavours to form a Design that shall do honour to the National Taste. (*Plate* 105.) At the same time, he will not forget economy so far as to form his Squares, and principal Streets with buildings that might vie with the Tuilleries, the Louvre, and the Garde-Meuble at Paris. His Compositions will, however, display as much of the true spirit of Architecture as practicable magnificence will permit. I say practicable magnificence, for magnificent our new buildings might be, were it not, sometimes from the interested dispositions of Landowners, but more frequently from the rapacity of the Builders, to whom, unfortunately, the Designs of the Artist are often submitted, their object being to raise the largest possible rental, our buildings are limited to mere heaps of bricks, with perforations for light and the purposes of ingress and egress, without the least regard to elegance of Composition. Thus the Character of our Architecture, and the higher feelings of Art, merge into the system of profitable speculation.

In the former Discourses the state of our Architecture was considered until the time of Lord Burlington. After his death the Principle on which Buildings had been raised was soon changed. The Master Workmen were no longer contented to follow the directions and be controlled in their charges by the Architect; they now assumed a different character under the general appellation of Builders. To give efficacy to this new Order

of things the most eligible situations for building upon were selected, and the Landowners tempted with offers of much larger rents than could be obtained so long as the Land was used for Gardens, Pastures, or such purposes. This mode, so advantageous to all the parties immediately interested, gained an ascendency rapidly, assumed a gigantic appearance, and ultimately became so fashionable, that it is now the almost universal practice.

Before I briefly point out, agreeably to my duty, the progress of this System, and its baneful effects on Architecture, it may not be foreign to the purpose, nor altogether useless, to digress a little, and show some of the spaces originally laid out on a regular plan, such as Covent Garden. Three sides of the Piazza, as originally designed by Inigo Jones, made one regular mass of building, and the Church completed the other side. Two sides of this beautiful Plan existed in my time, but a part of one side having been burnt down, the increased value of the site occasioned re-building in a more productive manner. (*Plates* 13-14.)

The general Plan of Lincoln's Inn Fields and Great Queen Street was the work of the same great Artist. Lindsey House (*Plate* 47) was built by his nephew, Webb, from his designs, as well as some of the Houses on the same side of the Square, and others in Great Queen Street, of which a few are still standing. When one entire side of Great Queen Street was formed of Houses, like those shown in the Drawing before you, what a noble effect must have been produced. Italy might have boasted of the work. (*Plate* 106.)

Grosvenor Square, and the Streets surrounding and leading thereto, were among the first grand essays of the Speculative System of building. The Houses in Grosvenor Square are on a large scale: three of them on the North side westward, are of a superior class, and at the time they were erected were much noticed.* In them we trace an imitation of Palladio, in them we see that Inigo Jones was not quite forgotten: the other Houses, altho' large and possessing some dignity of Character, are yet of an inferior class. (*Plate* 103.)

The general appearance of the Houses in Cavendish Square is not inferior to those in Grosvenor Square. Bingley House, as one of its first buildings, is a grand feature, notwithstanding the dead wall gives it an air of gloom, and Mr. Tuffnell's two Houses add to the importance of this Area. The scenery from thence is much heightened by the view of the Church and other buildings in Hanover Square.

Thus far the new system of building seems to have done no mischief. Portman Square has some Houses* that would have done honour to Grosvenor Square, but the general mass of them are of a kind not much superior to those in Bedford Square. Here the spirit of Speculation begins to show itself more decidedly: the Buildings appear less important and less substantial. The Houses in Portland Place, and in Mansfield Street held out some prospect of a return to a better style of building, and those on the south and east sides of Fitzroy Square, in their Architectural appearance, promised still more; so did those on the West side of Finsbury Square and Chiswell Street. All these appearances, however, quickly faded and our hopes of better Architecture were destroyed by the monotonous Houses forming many of the Streets and Squares, which have been built since that time. These will be found to consist, not only of thin, flimsy walls, perforated for use, so many brick-heaps piled one after the other, but in many cases, so far in open defiance of the Principles of Sound Building that our ephemeral publications are constantly recording the melancholy events occasioned by their instability.

Such have been the effects of the Speculative System of building, a System which in its progress has swept away so many of our ancient and extensive Mansions by holding out to their owners the prospect of increasing the value of their property by miserably parcelling out the inheritances of their Ancestors, into Streets of monotonous, and it

* R. and J. Adam, one of the houses being for the Earl of Thanet.—*Editor's Note.*

* The North side half by Adam and the remainder by Wyatt.—*Editor's Note.*

may be added of ill-constructed Houses. If this System be continued it will eventually destroy all relish for substantial Construction, and finally root out every vestige of good Architecture. I am sorry to have to add that some Architects have materially assisted in establishing this Revolutionary System in Architecture by prostituting the credit of their Profession, sometimes by taking large tracts of Ground and parcelling it out to the Tradesmen employed by them, and at other times by taking the Ground and becoming builders themselves.

It has been generally asserted that Architecture, in this Country, during the last Fifty or Sixty Years has rather been declining than making any progress towards perfection, altho' on the Continent it has been rapidly improving. These unpleasant truths must create the most galling reflections in the minds of our young Architects. If the great Masters of Music, with a small number of simple sounds, with a few scanty materials, have produced such an infinity of different kinds of Harmony, as have called forth the universal admiration of mankind; if Painters with a very limited number of original natural colours have produced an innumerable Variety of Tints and Effects, whose combinations charm and astonish the admirers of the graphic Art, it is because they have had enlightened Patrons and liberal Protectors, who by giving importance to those Arts raised up able Professors. What might not be expected then from the powers of our Art, whose elements are numerous and whose resources are infinite, if Architecture were as well understood and appreciated by men of enlarged and cultivated minds as the rest of the sister Arts are? Our great Public and Private Works would no longer be left, as they now are too frequently, to the guidance of men of moderate talent. Give Architecture Patrons, with intellect as well as wealth, let Taste, and the mind of Genius, and not Necessity alone, direct our Public and Private Works, we shall then see, not only mere Convenience and Comfort attended to, but our Buildings will exhibit infinite Variety of Combinations suitable to the respective Characters of the Works, and thereby fully establish the pretensions of our Art to that high rank which it possessed in the best times of the Greek and Roman Architecture.

To conclude, it has been observed that in the highest state of polished Society, in all ages, Painting, Sculpture, and Architecture were almost equally admired and understood. Nothing appears more rational than that this should be the case, since in the exercise and display of the highest excellencies of the Fine Arts they must depend on, and mutually assist each other. The Artist, who truly feels and appreciates the beauties of either of the Arts of Design, must possess sufficient taste for, and knowledge of the others, altho' it cannot be expected, from the shortness of life and the difficulties and extent of Art, that the mind of one Man should be so comprehensive as to embrace them all in an equal degree. This was not attained even by any of the great Masters of the Fifteenth and Sixteenth Centuries, yet many of them had acquired that competent knowledge of each, which must be seated in the same individual before he can hope to rival them, or achieve such superiority as will endure to posterity. It may be added that when the higher excellencies of Art are felt by an enlightened Public, Taste and Elegance will become generally diffused. The light and elegant Ornaments, the varied compartments in the Ceilings of Mr. Adam, imitated from the Ancient Works in the Baths and Villas of the Romans, were soon applied in designs for Chairs, Tables, Carpets, and in every other species of Furniture. To Mr. Adam's taste in the Ornaments of his Buildings, and Furniture, we stand indebted, in-as-much as Manufacturers of every kind felt, as it were, the electric power of this Revolution in Art. Our printed Linens and Paper Hangings exhibited such specimens of Decoration, that the admirers of the Loggia of the Vatican could not see, without their rendering due praise to them.

To the spirited and patriotic exertions of Mr. Wedgwood we owe, if not the introduction of Etruscan Ware, at least an amazing improvement in the manufacture thereof, as by his liberality in employing Webber,* and

other distinguished Artists, in forming Designs from the Antique, he gave a celebrity to the productions of Modern Etruria only to be surpassed by those of the Ancient Etruria. The Novelty and Elegance of this manufacture was not confined to Vases and other Ornamental Works, but the Spirit of Refinement became general, and the whole of the Pottery of Etruria became an assemblage of models of Delicacy and exquisite Taste. Even the plates of Etruria displayed such Simplicity of Form, and Correctness of Drawing in their varied Decorations, as to dispute the palm of merit even with those of Raphael himself.

If such be the power and effect of Novelty, how cautious ought we to be in what we offer for imitation, for altho' in the instances mentioned, fortunately True Taste and Elegant Refinement generally prevailed, perhaps, had that not been the case, and had Novelties of an inferior and less classical kind been ushered into the world by some amateur of taste, they might have spread for the time their baneful influence full as wide, and as extensively, and have been as destructive to the diffusion, and establishment of good Taste, as in this case they proved advantageous and beneficial to the Arts in general. (*Plate* 107.)

* See "English 18th Century Sculpture in Sir John Soane's Museum," S.M.P., No. 7:—*Editor's Note.*

The tribute to Robert Adam in this Lecture, about 25 years after his death, is remarkable in view of the reaction that took place in the last years of the 18th century (1795-1800), and the general oblivion that followed the great war, ended in 1815. It is doubtful if anyone excepting Sir John Soane knew or cared enough to pay such a tribute at the date of this Lecture.—*Editor's Note.*

END OF LECTURE XI.

Restoration. Temple of Vesta at Tivoli

LECTURES ON ARCHITECTURE

By Sir John Soane, r.a.

LECTURE XII.—CONSTRUCTION.

Mr. President,—In the last Lecture I pointed out that in the exercise and display of the great excellencies of the Fine Arts each must depend upon, and mutually assist the other; and that in a superior state of polished society the value of Painting, Sculpture, and Architecture has at all times been duly appreciated, each of those Arts being equally advanced and cultivated. The Artist who truly feels and appreciates the beauties of one of the Arts of Design must possess a competent taste for, and knowledge of the others, although it cannot be expected, from the shortness of life and the extent and difficulties of Art, that the mind of one man should be so comprehensive as to embrace and excel equally in the practice of all. This was not attained even by the great Masters of the Fifteenth and Sixteenth Centuries, yet many of them possessed that complete knowledge of the Fine Arts in general, which must be seated in the same mind in order to attain an excellence capable of commanding the admiration of Posterity.

Whenever the higher excellencies of Art are felt by an enlightened Public, Taste and Elegance soon become generally diffused.*

Among the various Studies, which have been pointed out to the attention of the Students in these Lectures, none is of greater importance in the interest of the Employer and to the Professional Character of the Architect, than a thorough knowledge of Construction, and of the Nature and Quality of the different Materials suitable to Buildings of different descriptions, together with the most durable, substantial, and economical modes of their application. Nothing is so well calculated to insure the Architects' success in life, as without this knowledge, which can only be obtained by great experience and attentive observation, formed on real practice, all his other acquirements will be of little avail.

The attention of the Student should be steadily directed to these objects, and he cannot be too strongly impressed with their importance. I feel the more anxious on this subject because, from some unaccountable fatality, this part of Architectural Study, this Duty of the Architect, is considered by many of our young Artists as both of less utility, and of more easy attainment than it really is, a mistake seldom discovered until it is too late.

If we search into the historical records of different Countries and Ages, respecting the Construction of buildings, in very early periods as well as in later times, we shall trace many fatal effects that have arisen from the use of bad Materials and defective Construction due to presumptuous ignorance.

The Ancient Architects seem to have been extremely anxious to leave to the most distant periods testimonials of their great powers of Construction, and they accordingly spared neither labour nor expense in order to give their different buildings a Stability, Strength and Solidity, which might triumph over all common accidents, and bid defiance to the reiterated efforts of Time. Many of the works of the Middle Ages likewise, after a lapse of six or seven hundred Years, have shown no greater symptoms of age and decay than an alteration in the colours of the different materials, whilst many Edifices of more recent date, afford the most melancholy examples of the too general disregard of Solidity of Construction, and of a due selection and application of Materials.

*Sir John Soane here repeated the tribute to Robert Adam given in Lecture XI, page 180.—*Editor's Note.*

It has been stated by some Writers on Architecture, that after the Magnitude of any Composition, together with the Forms of the component parts, and the style of the Decoration have been determined, the chief remaining duties of the Architect consist in raising the Edifice, not in the most substantial manner, but with the greatest lightness of Construction, and the least practicable expenditure of Labour and Materials, and some have added with the greatest Expedition possible.

However plausible this may be in Theory, it will be found deceptive in Practice. Had the great Masters of our Art in the Ancient World formed their practice on these Principles where could we have found those noble works which, notwithstanding the ravages of Time, the fury of Barbarians, and the prejudices of Fanatics are still in existence ? If the modern system of false economy, false mechanism, and great celerity is persisted in, it must eventually destroy every Principle of real Economy. It will extinguish the love of our Art and destroy all true feeling and consideration for that Solidity of Construction so happily practised by the Greeks and Romans, placing the flimsy, paste-board erections of speculative visionaries far beyond, not only the best examples of modern times, but also the most sublime conceptions and successful efforts of Antiquity.

The admirers and advocates of the system of extreme lightness of Construction and least possible consumption of Materials, refer us to some of our Gothic Cathedrals : in these, say they, the immense vaulted ceilings are often only four or five inches in thickness, whilst those of the Ancients are frequently two feet or more. Be it so, in the first place it must be noted that the vaultings of the former are only secondary coverings, there is uniformly over them an elevated roof of timber, usually covered with lead, whilst the Roman buildings had none of this roofing.

If we examine the remains of Ancient Buildings it will be found that, as far as was consistent with correct ideas of Stability and Duration, the Ancients were as especially attentive to the economising of Labour and Materials, not only in their Private but likewise in their great Public Edifices, as we are. It must be admitted even by the coldest and most superficial observer of Ancient Works that, as far as guarding against the effects of Time and the convulsions of Nature, on their Edifices, the object of durability was completely attained. What is the state of the Pantheon after a lapse of Two Thousand Years ? This noble structure, the glory of the Ancient and the admiration of the Modern World, still exists, notwithstanding it was exposed to all the seasons and the convulsions of Nature from about the year 655, when Constantine the Second took away, not only the silver and bronze ornamented panels of the interior of the Dome, but likewise the plates of gilded bronze which covered the exterior of the Dome of this mighty fabric. Thus dilapidated, this stupendous structure remained exposed (or at best defended only with tiles) until Benedict the Second caused it to be covered with lead. Then came Urban the Eight, who robbed the Portico of its ancient magnificence by taking away the Bronze, which so profusely covered the Beams and Ceiling, sufficient indeed not only to make the Baldaquin of St. Peters, but likewise several pieces of Artillery for the Castle of St. Angelo.*

Thus exposed, neglected, and repeatedly plundered, such was the original sufficiency of the Construction of the Pantheon that it exists to this day, in a state comparatively perfect as to Solidity. (*Plates* 26-27-108.)

So likewise the Marble roof of the Temple of Minerva at Athens remained almost unimpaired until Athens was besieged by the Venetians when, by the bursting of a bomb, a large part of the beautiful roof of the Temple was destroyed. (*Plate* 5.)

Whilst such is the effect of the Ancient Construction, our great Gothic Cathedrals, without experiencing the various spoliations,

* With Raphael, however, this noble structure had experienced a different treatment for, to his eternal honour, at his death he left a considerable sum of money for the reparation of the Pantheon.

or casualties of War, to the extent which befell the Ancient Buildings, are very many of them after a lapse of only a few Centuries in a most dilapidated state. Sir Christopher Wren, after a most accurate investigation, declared that most of the slender pillars in the Naves of our Cathedrals have been forced out of their perpendicular bearing by the pressure of the Vaults of the side Aisles against them, occasioned by the light manner of Construction practised in Gothic Buildings. Although in many instances the Construction is of a superior kind and conceived on true mathematical Principles, yet it is not always so. The passion of the Builders of those days for the too great economising of Materials and Labour, added to their desire for boldness of Construction and lightness of Effect, tempted them to the over frequent use of Iron, the fatal effects of which, when the metal is not properly prepared and protected, are but too visible in many of the Buildings of this Metropolis.

In the use of Iron we should do well to follow the practice of the Ancients. They were cautious of connecting together the different parts of their buildings with Iron, although at Baalbec the Columns of one of the Temples, where the shafts are in three pieces, are connected together with Iron axis, or pins, of a foot in length, and as much in circumference. Copper, being less liable to rust and consequently not so likely to injure the Stone, was preferred by the Ancients as a Metal for cramping their work together. This appears, not only from various records, but, when a part of the Coliseum was thrown down by an Earthquake, several Metal cramps, run with Lead, were found therein. Writers, likewise, speak of the use of large Cramps of Wood in ancient Buildings, which assertion is strengthened by the testimony of Monsieur Le Roi, who tells us that at the foot of Mount Laurium he saw two parts of a very ancient Column connected together with dovetailed keys, made of a hard red wood, well preserved and let into holes three inches wide and four inches deep.

If Modern buildings have suffered by this deviation from the practice of the Ancients, we have much more cause to lament the neglect of their precautions with respect to the Foundations of our Buildings. Even some of the great Architects of the Fifteenth and Sixteenth Centuries were too often led into fatal error from precipitancy, and from an affectation of too much lightness of Construction.

The Tower and Baptistry in the great Piazza at Pisa, are proofs of a want of attention to the Foundations.

The Walls of the first Basilica of St. Peter, built by Constantine, were charged partly on the Foundations of the Circus of Nero, and Bramante was in such haste to begin the New Church of St. Peter, that he not only proceeded before any Plan was absolutely determined on, but he likewise neglected to take up the old Foundations of the Basilica of Constantine, and those of the Circus of Nero. By this precipitancy he prepared the way for those mighty failures, which have called forth all the knowledge of the numerous Architects who have succeeded him, in unsuccessful endeavours to correct original defects. It is remarkable there was no settled Plan for this stupendous structure until Michael Angelo gave it the form of a Greek Cross. His Plan was afterwards changed by Carlo Maderna, who also made use of the old substructions and by his haste and inattention increased the mischief, which the original precipitancy of Bramante had occasioned.

Bernini felt the effects of the ignorance of that patronised blockhead, that self-created Architect, when after Maderna's death, it was determined to erect a Tower at each end of the Front. Bernini, without having properly examined the substruction, began one of the Towers but, before it was finished the great weight proved so fully the insufficiency of the Foundation that the work was suspended and, after every effort had been made to strengthen the Base, it was found absolutely necessary to take the whole of the Tower entirely down. (*Plate* 109.) To this misfortune, soon after succeeded another, an effect of the haste

used in the building of St. Peters. The great Dome, which had occupied Six Hundred Workmen night and day for twenty-two months, after One Hundred and fifty Years showed such signs of decay that finally it was resolved to secure it from destruction by encircling the cupola with four bandages of Iron of about five inches in thickness, and from six to seven inches broad. These bandages were fixed with fifty Wedges of Iron driven by as many Workmen who at a signal all struck home at the same time.

To build on a Rock is strong to a Proverb, but even rocks are not always to be depended on, vents and chasms may lurk beneath, and eventually endanger the most perfect superstructure. The Greeks and Romans were fully aware of these facts, and Pliny tells us that the great Temple of Diana at Ephesus was placed by choice on a marshy ground, that it might not be subject to injury from the effect of Earthquakes.

Wells should be dug in different places and every other precaution taken to ascertain the nature of the soil on which the Edifice is to stand. This information acquired, the Architect can proceed with certainty, either by piling or planking, or without either, as the nature of the soil may require.

The duration and perfection of all Buildings depend so much on the strength and goodness of the Foundations that too much attention cannot be given to securing, in the most perfect and complete manner, the base whereon the superstructure is to be raised. Let not therefore any improper consideration of economy induce the young Architect to lose sight of (for a moment) the necessity of securing in the most solid and perfect manner every part of the Foundation of his Building. The smallest defects in this essential part are irretrievable and almost inexcusable.*

It is not only the goodness of the Foundation that must be consulted, the general Solidity likewise requires great attention and knowledge in the selection of good and fit Materials, and the proper application thereof. The Architect by practical experiments on Stone, Wood, Iron, Lime, and Sand must ascertain their properties and powers to resist, support and connect. Materials of the same description and quality are not alike fit on all occasions, as in every building some parts require the best materials, whilst in others, those of an inferior and coarser quality are even more suitable.

In these cases the judgment and experience of the Architect should be exercised in discriminating the choice of his Materials and the propriety of their application to the different purposes of the building. He must be careful to distinguish the accessory from the principal, and never confound those parts which have great weights to support, or the thrust of Arches to resist, with those which have none of these services to perform. The remains of Ancient Buildings offer examples of many different modes of blending, or bonding together, the several parts of the Walls.

Vitruvius says the thickness of walls ought to be half the height up to the rise of the Wall out of the ground. In modern Works we are generally satisfied with spreading the footings somewhat beyond the Walls, which are to be placed upon them.

The Greeks, and after them the Romans, to render their works eternal, frequently, at least in their Public Buildings, excavated the whole superfices until they reached a firm stratum. The whole space was then covered with solid Masonry to nearly the level of the ground.* This practice also prevailed in later times. The Architects of the great Gothic Cathedrals, both here and upon the Continent, seem generally to have been not unmindful of the sufficiency of their Foundations, and they did not fail to consolidate them with considerable care. Under each row of Pillars, separating the Nave from the Aisles there was a continued wall of

* Laing, one of Sir John Soane's early pupils, was involved in this way at the Custom's House, the centre of which failed and had to be rebuilt.—*Editor's Note.*

* *e.g.*, the mass concrete foundation blocks at Richborough and Colchester.—*Editor's Note.*

Masonry, and from each Pillar of the Nave a wall was extended to the outside Walls of the Edifice. Walls were likewise built under the union of the arms of the Cross to join together the Piers of the angles, and if the Cathedral had two Towers, then a continued mass of regular masonry connected the whole of the Building at the base, and thereby formed that just equilibrium calculated to ensure Durability and Solidity to the whole structure.

The Moderns in their buildings of importance have sometimes used the manner prescribed by the Ancients, as in the Sacristy attached to St. Peter's Church in Rome, and at other times have followed the examples to be found in the Gothic Structures. On other occasions they have contented themselves with single Piers instead of continued Walls, and with turning inverted Arches* from one to the other, as a less expensive mode of uniting the different parts of the Foundations, so as to produce equal Solidity, with a much less quantity of Materials, and considerably less Labour.

These different modes of laying the Foundations of Buildings are unalterable, they are all derived from general Principles.

Of all Foundations, those under Water are the most difficult to execute, for in these the most skilled Architect, like the Physician, is compelled to grope in the dark. When the Water is very deep the Foundations are formed by driving in long beams, at proper distances, and connecting them together with other beams placed transversely. If the River be too deep and too rapid to admit of this mode then the Foundation is made by throwing in a great quantity of large Stones without Mortar, the one upon the other, raised as high as the level of the Water.

Foundations thus formed must be very expensive, and what is worse, Superstructures raised on Bases composed of Stones heaped confusedly together without connection, with the Water constantly filtering through them, can have but little solidity.

The celebrated Bridge of Trajan* over the Danube is supposed to have been built in this manner. When the amazing dimensions of this Bridge are compared with that over the Thames at Westminster, it is not surprising that a superstructure raised on such an uncertain basis should be anything but durable. Hadrian could have had but little trouble in destroying it.

To build in Water with more solidity we generally make use of Timber Caissons well secured with Iron and filled with Stones and Masonry. These Caissons, are then sunk with care, one upon the other as nearly level as possible. This species of Construction, though better than the preceding, cannot have any great consistence as the different Caissons cannot form one body, nor can the Mortar unite itself with the wood.

When the Water is not very deep, the Foundations are sometimes placed on an open platform of Carpentry, which is supported on the surface of the Water by Cables and Machines; on this Patform, or Grillage, are arranged large blocks of Stone well cramped together, sufficiently high to reach from the bottom to the top of the Water, and these platforms are then sunk.

Vitruvius relates that the Ancients to build Moles, or the Jetties of Ports, formed in the place they intended to build an enclosure with a single row of piles, the intervals between which were filled with thick planks. Then, without taking out the Water, they threw into the enclosure Stone and Mortar of Puzzuolano, so that these materials, occupying the space of the Water and driven out by their weight, filled the space enclosed by the Piles. Having taken out with Hydraulic Machines the remnant of the Water contained therein, if they considered the ground solid, they then built on it, or otherwise drove Piles into it.

It is certain, however, that no Foundations except upon Piles can be considered really solid. The usual process of forming a

* Inverted arches are only to be used with the greatest precautions and are now rarely used. They had to be cut out in the case of the large church in Gordon Square.—*Editor's Note.*

* Illustration given in Lecture VI. (*Plate* 43.)

Foundation with Piles, is by making a Batardeau Enclosure round the space each of the Piers is to occupy and then, by the assistance of chain pumps, forcing the Water out of the Enclosure, the Piles are then driven till they reach the solid bed of earth and can be sunk no further.

If the difficulties in the construction of Bridges are great, the honour of directing and the satisfaction arising from tracing the progress of such works is commensurate with the anxiety they occasion.*

In the Bridges of the Ancients we trace the same grandeur of mind as in their Temples, and other Public Works.**

To enable you to form some faint idea of their magnitude I have shown Trajan's Bridge, over the Danube, together with Westminster Bridge, drawn to the same scale. Some remains of this stupendous work it is said are still to be seen, but what it was when perfect can only be known from the authority of Ancient Writers. (*Plate* 43.)

The ruins of the Bridge built by Augustus over the Nar are sufficiently considerable to convey an idea of its Ancient grandeur. The Bridge at Rimini and the ruins of many others, might be here adduced in proof of the great attention paid by the Ancients to this species of Building, so admirably calculated to show the utility and the mighty genius of Architecture.

In the Construction of Bridges the Architects of France, by their close application to the science of " La coupe des Pierres," have given a high degree of lightness in appearance, and, by reason of the flatness of the Arches, an ease of ascent, unknown before Peronnet's celebrated work at Neuilly.

Of this noble Structure, that great Artist has given such very accurate details and scientific representations, that we can trace readily, with pleasure and profit, his arduous undertaking from its commencement to its completion.

The Bridges of Switzerland must not be unnoticed. They are entitled to the attention of the Students in Architecture and show as much deviation from the general system of those Bridges which are constructed with Wood, as the Bridges of France do from those of the Ancients. In the Swiss Bridges, utility has been studied more than beauty. They are very peculiar in their construction. Many of their suspended Bridges are of considerable dimensions, and as they generally extend from the abutment on one shore to the corresponding abutment on the other, two great advantages are obtained, there are no Piers to interrupt the Navigation, and the Passage above can be made nearly level, the floor being supported by the Superstructure.

On the Constructional side of buildings, the French Artists have, as has been already noticed, greatly the advantage over our Students. It will not be possible to remedy this evil until Schools are established in this Country, not only for Students to acquire a facility in Drawing in all the Departments necessary to the Architect, but wherein likewise every branch of the Mathematics connected with out noble Art will be explained, and the Principles and Practice of Construction detailed to them, not by Lectures, Drawings, and Models only, but by occular demonstration, and the practical explanation of whatever is made from time to time the object of their studies. Until such Schools are established (and I trust the time is not far distant when such will be the case) for the education of those who are destined to be Architects, I should advise the young Student to examine from time to time the Construction and progress of every building into which he can gain admittance. By attending carefully, even to the defective construction of the Speculative Economists, he will at least gain experience of what is to be avoided; nay he would by such observations be enabled to account for many of their defects, and perhaps be enabled to point out

* Sir John Soane built Blackfriar's Bridge at Norwich in his early days, and about 1800, a beautiful small example at Tyringham, Bucks. See "The Works of Sir John Soane," *S.M.P.* No. 8, and *Architectural Review*, February, 1929.

** Anciently when they wanted to construct a Bridge, they began by adding another Channel to the River to turn off the waters, and when the ancient bed was dry, or nearly so, the Bridge was erected. (*Beloc Herod*, Vol. 1, p. 123.)

the best means of stopping the progress of the evil. The greatest difficulty oftentimes is experienced in ascertaining the Cause of defects in buildings. By attending the progress of buildings and by making Drawings of them in their different stages,* the Student will not only attain great skill in the mechanism of Buildings, but at the same time discover many effects of light and shade, which a close observation of Nature alone can give. By this mode of Study he will acquire a facility and freedom in Drawing, and at the same time observe and treasure up in his mind a variety of Forms and Ideas, that the same buildings when finished would not convey. The young Artist must not stop with making such Drawings; he must at the same time consider and make his remarks on every part of the Construction, and if, after the work is completed, defects appear in the Building, he will then be enabled to account for them, and what is still more important, he will be able eventually to avoid similar ones in his own Works.

This mode of study unites the "Utile and Dulce," and I should expect that the Student who adopts it will gain a very considerable advantage in Drawing, Composing, and Constructing.

The Drawings here exhibited show what has been the general practice of my Pupils, by whose unremitting exertions and anxious zeal I have been enabled to exhibit so many Drawings in elucidation of the Principles and Opinions advanced, and for which I here offer them my best thanks. (*Plates* 110-111-112-113.)

The first three of the Drawings just exhibited are of the Picture Gallery and Mausoleum of the late Sir Francis Bourgeois at Dulwich College. The next are of the Infirmary attached to the Royal Hospital at Chelsea, and the others are descriptive of the Three per Cent. Consols Transfer Office at the Bank, in its different stages of progress until its completion. This Room, although of large dimensions, is like the rest of the large Offices at the Bank, constructed with incombustible Materials.

To enter as fully as I could wish into all the useful and necessary details of Construction would require more time than can be taken for the whole course of Lectures. I have therefore only made some general and disjointed observations on these points, yet I trust they will be sufficient to impress the minds of the young Students with the importance of the subject. It was my intention likewise to have shown the Students the method of Construction in use in some of the principal Cities, raised in Ancient and Modern times in different Countries, under the various effects of Climate, Materials, and other local considerations, and whether in the Grecian, Roman, or Gothic Styles.

The Student must attentively peruse and well digest the Writings of Vitruvius, Palladio, Scamozzi, and Vignola, and after them, the best modern Authors of every Country must likewise be diligently read. Thus prepared his road will be easy and direct. Difficulties will vanish, he will be honoured whilst living, and when dead, Fame will enrol his name in her fairest page, transmitting his memory to the latest posterity.

In the long train of evils to which Modern Houses are subject, Fire, is of all others most to be dreaded, more particularly in great and populous Cities.

It has been observed that Fires are much more frequent and fatal in England than they are on the Continent. The reason is obvious, their buildings are frequently constructed of incombustible materials. Here our Builders are satisfied with Timber, and instead of Walls for separation we have wood partitions from the Cellars to the Garrets. Instead of Floors formed of flat Arches, composed of Bricks or Cones, or of other incombustible materials, we have only floors of Timber. Pointed Roofs, it must be admitted, cannot be so easily constructed with solid Materials, but why not substitute Flat Roofs ? and at all events make as much use as possible of incombustible materials. Is it not painful to observe Walls of Thirty,

* Sir John Soane's Pupils were sent out to the buildings in progress on these lines. See account given in "Architectural Education a Century Ago," *S.M.* Publication No. 12.

or even Forty Feet high, in some of the most populous situations, supported on the most paltry Timber mechanism, when they might be so easily charged on Iron Cradles, with Iron Columns under them. It should be an axiom in building that Timber should never be employed in any part of an Edifice where incombustible materials can be substituted. The use of Timber and other perishable Materials may give a facility and expedition in raising the Edifice, but as a general principle it should never be resorted to except from absolute necessity.*

Whoever looks at St. Paul's Cathedral without trembling for the fate of that noble fabric, should Lightning or any other cause communicate Fire to the Timber work of the Dome. However admirable the Carpentry may be in its Construction, and however easy of reparation in all its parts, yet it must be lamented that the whole of the Dome and vaulted Ceilings were not constructed with incombustible materials as at St. Peter's in Rome, Sta. Maria del Fiore at Florence, and many other of the great Structures on the Continent.**

It is the general adoption of Timber that occasions so many of those great Fires, whose ravages cannot be looked at without shuddering on account of the number of lives that are annually sacrificed, as well as the buildings, together with the valuable Works of Art of every description contained in many of them which the world is thus deprived of.

Within a few years, the Church of St. Paul, Covent Garden (*Plates* 13-14), fell a sacrifice to this consuming element, and although it has been partially restored, the admirers of Inigo Jones have much to lament. The Pantheon in Oxford Street affords another melancholy example of the fatal effects of Fire. Even a slight inspection of this drawing will cause every lover of Architecture to lament the destruction of this masterly Composition.* This loss was followed by the destruction of Covent Garden Theatre, Drury Lane Theatre, the English Opera House, and many other costly structures.

Notwithstanding these dreadful examples, and many others that might be enumerated, such is the power of prejudice and the force of example, and such the influence of interested motives, that the old system of building is still suffered to continue. Let us hope that the time is not far distant when the Legislature, reflecting on the number of lives that are annually sacrificed by the ravages of Fire, and roused by the repetition of the dreadful miseries occasioned by the too general use of Timber, and by bad construction of every kind, will revise the Act for the better preservation of Buildings against fire, and will cause such enactments to be made as will render it the duty and interest of every Builder to guard by every means of good Construction against the effects of that dreadful and all consuming Tyrant, who spares neither age, nor sex, neither lives nor property.

After Fire the next great enemy to buildings of every kind is a species of decay called the Dry Rot. This pestilential disease and noisome defect, now become so general in the buildings of the present age, was scarcely known in those of former times. How does it happen ? Is it from ignorance or neglect that this evil is now so severely and generally felt ? Are the Builders of these days less informed, or less moral than those of earlier times ? I answer certainly not. The principal causes of this evil are easily explained, and the bare mention of the causes will at once suggest the remedies.**

The building even of a Country Gentleman's residence was formerly a work of Consideration. The Materials were collected together and arranged long before they were

* Sir John Soane is alluding to Regent Street and the Terraces in Regent's Park, and similar works of the period.—*Editor's Note.*

** Since this was written the timbers have been protected and a sector enclosing the staircase was formed of fire resisting material by Mr. Penrose while Surveyor of St. Paul's.—*Editor's Note.*

* Wyatt's Pantheon of 1770-72 burnt in 1792.

Note. — The Chapel of Greenwich Hospital destroyed by Fire is another instance of a prodigious sum expended in rebuilding which by a different mode of Construction might have been avoided.

** Sir John Soane is quite up to date on the subject of Dry Rot.—*Editor's Note.*

used, and when the Walls were raised and the work roofed in, the building remained in that state for a considerable time, whereby the Walls became perfectly dry, and the Timbers duly seasoned. In modern works some of the Walls, from false economy, or rather from improper parsimony, are so thin that the weather beats through them, and others, though in damp situations, are left unprovided with vacuities to resist the effects of damps, as particularly directed by Vitruvius. The Stone, instead of being, as that great Architect recommended, two years out of the Quarry before it is used, and the Timber, instead of being felled for years before it is worked, are hurried from the Quarry and the Forest into the building. The finishings, frequently begun, even before the Building is secured from the weather, are continued to its completion, without intermission and with all possible expedition. Thus the damps are shut up in the Walls, and the moisture in the Timbers. Structures, that would have occupied the attention of our forefathers years in raising, are now built, finished, and inhabited in as many Months, and thus the foundation of speedy decay is laid by the original sin of Construction. Probably the rot has made considerable progress, even before the House is fit for habitation.

It may be further observed that every part of the work is made so perfectly close that no air is allowed to enter, and hence many of the miseries and annoyances from smoke and its troublesome attendants, whose effects are frequently improperly attributed to the ignorance or neglect of the Architect, and the dishonesty of the Workmen.

Besides these difficulties, the Architect has others to combat with, the cold of our Apartments, particularly when they are of large dimensions, is often a subject of complaint. When we changed the small doors and windows of our Old Houses into others of very large dimensions, we admitted the Sun, and with that glorious luminary came cheerfulness also; but, copying French fashions too closely without due consideration, Windows in every aspect have been made preposterously large, and the Piers between them, comparatively speaking, ridiculously small. Doors have been made to occupy the greater part of the entire side of the Room, and for the thick Walls of Houses of early times we have substituted Walls barely sufficient to support the Floors and roofing, and to receive the Flues of the Chimneys. Walls are now made so thin and are so loosely constructed that the air penetrates them and Smoke issues from crevices, far removed from the Seat of the Fire or the direction of the Flues. We may well complain of the inferiority in these respects of Modern Buildings. How is it possible, with such false Economy and such miserable Construction, to be surprised that our Houses are damp, cold, and uncomfortable, as well as continually requiring reparation in their most essential and constituent parts.

These, it must be admitted, are some of the sore evils to which our Buildings are liable. It behoves therefore the Architect to employ the most attentive and unremitting exertion of his Talents and Experience to avoid all such defects in the Works with which he is entrusted, remembering that despite all his care and diligence, his efforts cannot always be successful. Let all of us, before we censure, distinguish between the unavoidable failings of the intelligent and scientific, the ingenuous and modest, Artist (whose best exertion of his talents and experience have been diligently called into exercise in the honest discharge of the great trust reposed in him), and the gross carelessness of the ignorant and uninformed, " not only of Architecture, but of everything relating to Fabrics." There are persons who think that no man can be skilful who is not rich. By joining assurance to riches, and aided by craft and political cunning, together with servility and perseverance, such persons often find powerful Patrons, and thereby rob the real Artist of the well earned reward of his labours, leaving him, with all his modest merit and sterling worth, to pine without employment in that dignified obscurity which attended our great Master Vitruvius. With all the pride of an ingenuous mind, feeling for the dignity of our noble Art, Vitruvius exclaims " I have learnt

from Authors that it is proper to be requested, not to request the care of any Building; I have, he writes, not endeavoured to obtain great wealth by my Art, having preferred a little with a great name, to an abundance attended with infamy."

I trust that by this Digression I shall not be supposed to be apologising for the defects of the Architect, nor endeavouring to screen him from any of the effects of the great but necessary responsibility that attaches to his Profession, for which he is liberally remunerated. No such idea will ever enter the mind of our young Architects, who are legitimate offspring of Vitruvius, and tremblingly alive to the Honour of their Profession, they will never shrink from the most severe duties, but readily and cheerfully brave all the difficulties as well as the mortification of seeing themselves too often supplanted by the unlearned and unworthy.

Many of the most serious disappointments, that attend those who build, would be avoided if Models were previously made of the Edifices proposed to be raised. No building, at least none of considerable size or consequence, should be begun until a correct and detailed Model of all its parts has been made. Such Models would be of great use not only to the Workmen, but to the Architect likewise. Formerly Models were considered as essentially requisite in Civil, as in Military Architecture, and no building was begun without a Model having been previously made thereof.

Of the Basilica of St. Peter in Rome there was a very large and expensive Model, which was carefully preserved. There is likewise a large model of the original Design by Sir Christopher Wren for St. Paul's Cathedral, which is still to be seen.* In later times there was not only a general Model of the Mansion House, but likewise many of all the Cornices and other enrichments, of their full size. In my own practice I have seldom failed to have a Model of the Work proposed, particularly of those large Rooms at the Bank constructed entirely of incombustible materials, such as these and those already exhibited in the course of these Lectures. I must add that wherever the Model has been dispensed with, I am afraid the building has suffered in consequence thereof, either in solidity or convenience, and perhaps in both.

Models have generally been considered as expedient on most occasions. My late worthy and intelligent friend,* the author of Oikidia, was so fully persuaded of the advantages of this practice (although he has prefaced his recommendation of their use with some satirical though just observations) that he tells us, " When the person who wishes to build is possessed of the Design, with a correct and detailed calculation of the estimated and probable expense, his next step should be to cause to be made, not a gaudy eye trap, to dazzle and confound the ignorant and to take in the unwary, but a complete plain model shewing all the parts of the design he has approved."

" In this model if he places a few blocks of wood, cut out by the scale of the Model to the proper dimensions and shapes of Bedsteads, Tables, Chairs, and other useful pieces of Furniture, he will find himself amply rewarded for the trouble, by the facility of Construction and the various circumstances of convenience, which, without a Model, would in most cases be overlooked."

It is much to be lamented that of the remains of the great structures, once the pride of Greece and Italy, and of the Gothic Buildings, we should possess so few Models, and even those, so far as I have seen, are insufficient to explain their different modes of Construction.

Drawings and Prints of them we have it is true, varied *ad infinitum,* but they only convey certain ideas and make certain impressions. If premiums were to be given for the best executed and most accurate Models, made from actual Mensuration, of some of those Works, on a scale calculated to shew the manner in which the Walls are built, the Coupe des Pierres of the Arches, the Vaultings, the Framing and dimensions of the Timber Roofings, with the Iron Ties, Cramps, and minute parts detailed, what a rich field

* The student is reminded that there is another side to this question of Models on which, in this place, Sir John Soane appears so keen.—*Editor's Note.*

* James Peacock, Dance's Chief Assistant at the Guildhall. See " The Portrait of Sir John Soane." S.M.P. No. 13.

of information and improvement would thereby be laid open to our Artists and the different Mechanics concerned in building. Large Models, faithful to the Originals, not only in respect of Form and Construction, but likewise to the various colours of the Materials, would produce sensations and impressions of the highest kind, far beyond the powers of description and surpassed only by the contemplation of the Buildings themselves, an advantage, which, unfortunately many causes frequently combine to prevent the Artist from enjoying.

Before setting out upon his travels, the Student in Architecture should have duly contemplated such Models, and diligently read the Writings of Vitruvius, and those of the great Italian Architects, to whom in a great degree we owe the Restoration of the Ancient Architecture.

Having made himself thoroughly acquainted with that excentric Work of Francisco Colonna, "Il sogno di Poliphilo," the Works of Piranesi, Desgodetz, Le Roi, Stuart, Belidor,* Gautier and a few others of those who have written on the Principles of Building and of Taste, and having made himself so far acquainted with Painting and Sculpture, as to feel their importance, if not their beauties, the Student has then only to complete his studies by visiting Foreign Countries. (*Plates* 11-16-18-20-37-49-62-94-114-115.) Thus prepared, the young Architect may be reasonably expected to derive every possible advantage from the study of the extensive Remains with which Rome and its Campagnia, as well as many other parts of Italy abound. During his stay on the Continent he should mix as much as possible with Artists of different Nations. He should not only reflect on what he has read in his study, but he must, from actual mensurations taken by himself, make finished Sketches of such Structures as are most valuable; and closely meditate upon the original purposes for which they were raised. He must consider how far Situation and Materials influenced the Architects of those Structures. The Mouldings, the Ornaments, the most minute details, must not escape his observation. Now is the time, the golden opportunity, which once neglected can never be re-called, to treasure up in the mind as many ideas as possible. The young Artist, anxious to attain to superiority and truly emulous of Fame, must go further, for he must determine what part of his satisfaction, or dislike, grows out of each circumstance, and why. He must repeatedly observe and make himself familiar with the particular Effects which result from each of the parts, and the general Effect produced by their accord and combination. This is the only way to study the Architecture of other Countries, and to attain just ideas of that which is really beautiful and worthy of admiration in modern buildings and in those prodigious Works of Antiquity, wherein we look to something beyond the taste in which they were conceived. (*Plate* 116.) The difficulty of constructing Edifices of such astonishing grandeur and magnitude and the total disregard of expense, where great National advantages were to be obtained, are so far beyond anything that Modern times have produced, that they cannot fail to impress the imagination of the Artist. (*Plates* 1-5-17-21.)

Modern Works in general must indeed appear small when compared with those of the Ancients.

The Construction of Stonehenge even, which is considered as a mighty effort, appears trifling when compared with the labour and difficulty of moving the Rock, which serves as a Pedestal to the Equestrian Statue of the Czar, Peter the Great, raised to his glory by Catherine the Second at St. Petersburgh. The work was effected under the directions of the Chevalier Lascaris, and this immense block of Granite, Forty-four feet long, Twenty-seven feet wide, and Twenty-two feet high, was removed to St. Petersburg, partly by Land and partly by Water. By land it was rolled in the depth of Winter a considerable distance on Balls of Copper, Five feet in diameter, running on grooves of the same

* *B. F. de Belidor.* 1693—1761. French General, author of "La Science des Ingénieurs dans la conduite des travaux de fortification, et d'architecture civile" 4to Paris 1729. Also "Architecture Hydraulic" 4 vols. 4to. Paris 1737.

Gautier H. Traite des ponts Romains et Modernes." 8vo. Paris 1765.—*Editor's Note.*

Metal. Levers, Four feet in diameter and Sixty feet in length, were used to raise it out of the Bog in which it lay. It was afterwards conveyed to St. Petersburg by Water, in a vessel built expressly for the purpose. This work was no common task for it required a mind strongly fortified, and nerves well braced, to undertake such an Herculean labour. Even this falls short of the means employed, the precautions taken, and the expense incurred, in raising the Obelisk in the Piazza of St. Peter's at Rome.

When we recollect that this very Obelisk, of one entire piece of red Granite, 107½ Palms in height, 12 Palms at the Base, and 8 Palms at the top, weighing upwards of one Million Pounds avoir-du-pois, had been brought from the Quarry in Egypt a considerable way by Land, and then by Water, we are really lost in admiration and astonishment. Fontana's account of this great Work is so interesting that I cannot help giving it in abstract.

This Obelisk, which formerly stood in the Circus of Nero, was thrown down by Constantine to make room for his Basilica of St. Peter. It remained entire however, and Pope Sixtus Quintus conceived the idea of having it removed from the place where it lay and setting it up in the middle of the Piazza in front of St. Peter's Church, a distance of about One Hundred and Fifteen yards. This was considered so very difficult an undertaking that His Holiness was advised to invite all the great Architects, Engineers, and Mathematicians to consider of the best means of effecting the object. The learned and scientific of every Country being assembled together for this purpose, some required Months, nay Years, for consideration before they could presume to offer any opinion. Others suggested a variety of different ideas on the subject such as in their opinions were best calculated to accomplish the object in view. After months of deliberation and repeated experiments on the different models presented, the most rational schemes were selected, and ultimately that offered by Fontana was adopted.

Fontana then commenced his operations by assembling Mechanics of every trade and collecting together an immense quantity of materials and implements of every kind. He ordered a great number of Cables to be made of Hemp, one third of a Palm in diameter, and Two Hundred yards long, and pullies, levers, and capstans without number. As many bands of Iron were made to surround the Obelisk as together weighed at least Forty Thousand Pounds. A platform was likewise formed of prodigious strength, sufficient to receive the Obelisk. This had been previously secured with such amazing quantities of Timber and Iron as to increase the weight of the Obelisk to about One Million and a half of pounds.

There being a considerable inequality in the level of the ground, a Trench was dug, and a bed made of strong Timbers the whole extent, on which the Obelisk, by means of rollers, might be moved from the place where it was, to that of its final destination.

Such extraordinary and extensive preparations created the most lively sensations among the Romans, and brought such an immense concourse of people from all parts into Rome that, to prevent confusion, the Pope commanded that on the day on which the Obelisk was to be raised, no person whatever, the Workmen excepted, should be admitted within the enclosure. All persons moreover were commanded not to make the least noise, nor not even to speak to each other under pain of death.

The 30th April, 1586, was the day fixed for the great exhibition of Fontana's skill. Before daybreak the concourse of spectators was so great that all the streets and avenues leading to and about St. Peter's were filled, and the Roofs of the Houses looking upon the Piazza before the Church were covered with an anxious multitude, all waiting in the deepest silence, attentive to observe the effect of such immense Works of every description. High Mass had been performed at an early hour, and His Holiness, in giving his benediction to Fontana, reminded him of the greatness of the enterprise in which he was engaged. All the workmen likewise received

the Pope's Blessing. Every preparation being completed, orders were then given for the operations to begin at the first sound of the Trumpet, and to cease when the Clock of St. Peter's Church struck. The Trumpet sounds, and in an instant Nine Hundred Workmen, Seventy-five Horses, and an innumerable quantity of Capstans, Levers, and Pullies, with the other appurtenances are all in motion. The effect was so great that the earth shook, and most of the large Timbers, which formed the Machine for raising the Obelisk, were pressed into each other. At length after Twelve efforts, this mighty mass was raised sufficiently high from the ground to place it on the Platform previously prepared to receive it. Here it was fixed with iron wedges and strong timbers. The Guns of St. Angelo's fired to announce this happy event, which spread general joy throughout Rome. The Obelisk was then placed horizontally on Rollers, put on the bed of Carpentry already described, on which it was taken by four large rollers worked by as many Capstans to the place of its final destination. On the 10th day of September the Pedestal being erected, the same Ceremonies were repeated as in the first operation, and with the power of Eight Hundred Men and One Hundred and Forty Horses, this Obelisk, which the Ancients had brought from Egypt, was after Fifty-two efforts safely placed on its Pedestal. This event was then announced from the Castle of St. Angelo by the discharge of all the Artillery, and the Workmen overjoyed, took Fontana on their shoulders and carried him home in triumph, amidst shouts of joy and the sounds of Drums and Trumpets. Fontana was then made a Knight of the Order of the Holy Ghost, and ennobled, with an annual Pension of Two Thousand Golden Crowns, to descend to his heirs. Medals were also struck in honour of the great work he had so successfully completed.

If all these gigantic preparations, if all these solemnities were used, to move the Obelisk a few paces only and to set it upright, what a mind must that Man have possessed and what honours and rewards did he merit, who first conceived and perfected the idea of bringing such an immense mass of Granite across mountains and seas from Egypt into the precincts of Imperial Rome? The thought of the machines that must have been made use of for that purpose may well fill the mind with awe and respect for the great Architects of Antiquity.*

The transportation of such an object as this Obelisk by Land and Sea must have been attended with enormous expense, and it speaks Volumes as to the high consideration of its influence over the best political interests of Nations. In Antiquity Architecture, whilst it dazzled and surprised by the sublimity and splendour of great Public Buildings, raised the mind of humanity to the highest pitch of enthusiastic reverence for the Gods of Paganism. In later ages its powers have been felt equally both in Church and State, witness the great Religious Buildings throughout Europe.

How highly Architecture and its Professors were held in Ancient times, we have many testimonials. After the destruction of the Temple of Diana at Ephesus, Alexander, with that truly noble and elevated mind which always characterised him, requested the Ephesians to permit him to be at the whole expense of rebuilding the Temple, provided he might have the gratification of inscribing his name on the work to that effect. This offer was as nobly rejected, by the Ephesians, and the Temple was re-built of such extent and splendour as employed Ctesiphon, Metagenes, his son, and their successors Two Hundred and Twenty Years in its construction, and exhausted all the wealth of Asia.

Having said so much in honour of Architects and Architecture, I must not in candour pass over the records of Ancient Writers of a contrary bearing.

Pausanius speaks of two celebrated Architects, Trophonius and Agamedes, who were employed by Ilyricus in building a Royal Treasury at Libadia a City of Beotia. In erecting this structure they contrived a secret entrance known to themselves only, and by which they could enter the place without being

* *Note.*—The Shrine of Latona at Butos was of one Immense Stone. Beloe's Herodotus. Vol. 2. p. 97.
The Edifice built by Psammeticus. Beloe's Herodotus. Vol. 2. p. 122.

seen. Ilyricus, having missed his money from time to time, although the place always seemed secure and no injury had been done to the building or any of its fastenings, placed a snare amongst the vases which contained his treasure. Agamedes going as usual was caught in the trap, and Trophonius seeing there was no possibility of extricating him, cut off his head, intending to carry it away, that the body should not be known. Such was the end of Agamedes, as for Trophonius, Pausanias goes on to state, that the Gods being shocked at his dreadful act caused the earth to open and swallow him up, leaving a large Cavern upon which a Column was placed thus giving rise to the Poet's "Cave of Trophonius."

There is another trait of bad faith recorded by Pliny and Strabo, not so atrocious as the former, but at the same time not very honourable to the Architect.

Sostratus, amongst other great Works, erected by the command of Ptolemy Philadelphus on the Isle of Pharos near Alexandria a stupendous Lighthouse. Wishing posterity to give him the entire credit of the undertaking he placed on the building, an inscription to the following effect: "Sostratus of Gnides, the son of Dessifanus dedicated this building to the Gods, Protectors of Navigators." This inscription he covered over with Mortar, and placed another on it in honour of Ptolemy, which in time, it was presumed, would decay and leave the original inscription visible.

This building was Hexagonal, each side extending Six Hundred and Twenty-five feet, and it was Four Hundred and Twenty-five feet high. When we compare this immense mass with the Cordouan or with the Eddystone Lighthouse, we cannot be surprised that it was ranked among the wonders of the world.

If these bad examples of Ancient times present instances of cupidity and vanity, let us oppose to the conduct of Trophonius, and Sostratus, that of Michael Angelo, who gave up his labour and talents without any fee, or reward, other than the honour, to the building of St. Peter's Church.

Architecture owes most of its importance to the refined policy of Princes, and the still greater influence of the Priesthood, to whom we are indebted for many of those great Works which have been raised all over the Globe. Indeed the power of the Church seems to have been superior in all ages to that of the State, until our Henry the Eighth broke the charm. In his reign the pretensions of the Church were pushed too far, and Henry seized their Temporalities. From that period Architecture lost much of its consequence, and its most powerful pillar, the support of the Church.

Since the reign of Henry the Eighth we can only boast of the erection of one College, one Cathedral, and a few Churches of moderate dimensions. A regard for the National Glory and gratitude to those who have achieved great actions, have occasionally given a stimulus to Sculpture, but little has been done for Painting, and still less for Architecture except in the instance of Blenheim, the Monument of Marlborough's glory.

We must now therefore look to other causes for the exercise of Architecture on any large scale. It is to the patriotism and humanity of well disposed individuals that we are indebted for so many charitable and useful establishments, and chiefly to great commercial spirit and enterprise on the part of the Liberal and opulent Merchants of London and Liverpool do we owe the immense Harbours, Docks, and Warehouses for the East and West India Trade, and for the general Commerce of this great Empire. Many of our great Bridges, and numerous Canals in every part of the Kingdom, by their extent at least, would have done honour to Greece and Italy, and of some of them it may be truly said:

"These are Imperial Works, and worthy Kings."

(*Plate* 117.)

To attain with the greatest facility correct ideas of Architecture, the subject must be stripped as much as possible of its technical terms, and a sometimes unavoidable dryness.

He who wishes to shew his zeal and love for Art, whether he volunteer his opinions to the world, or is called on to declare them,

must divest himself of early prejudices and root out every propensity to envy, spleen, vanity, and sour eyed disdain, otherwise, however correct his motives may be, he will over-shoot his mark. Thus the advocates for Roman Architecture, because it is said :

"Learning and Rome alike in Empire grew,
And Arts still follow'd where her eagles flew,
From the same foes, at last, both felt their doom,
And the same age saw Learning fall and Rome,"

they have therefore given no credit to the Works of the Greeks, although even Vitruvius himself admits that the Romans borrowed their best notions of Architecture from that enlightened people.

An ingenious writer on our Art, whose name will ever be revered by those who duly appreciate the Fine Arts,* was so fully satisfied of the superiority of the Roman Architecture, and so dreaded the mischievous consequences of innovation that he has somewhat hastily, spoken of Grecian Architecture as follows : *"The famous Parthenon, which had for its Architects Phidias, Callicrates, and Ictinus, was the boast of Athens, and excited the envy and murmurs of all Greece was not so considerable as the Church of St. Martin in the Fields, exclusive of its elegant Spire."* (*Plate* 118 *and Plate* 5.) Judging from the Drawing before you, this appears to be inaccurate; nor is the ingenious Author more successful when he says : *"I am inclined to believe that many of the deformities observable in the Grecian Buildings must be ascribed to their deficiency in the constructive part of Architecture, such as their gouty Columns, their narrow intercolumniations, their Hypoethral Temples which they knew not how to cover, and their Temples with a range of Columns running in the centre to support the roof."* The term *"their gouty Columns"* can only apply to those of the Doric Order. If in the Temples to Jupiter, the massive Doric was used, in other Temples lighter proportions were adopted such as were more suitable to the character of the Edifice. The *"narrow intercolumniations"* in Grecian Architecture were adopted by the Romans, among whom, according to Alberti, Architecture attained its maturity. Might they not arise, not from any want of constructive knowledge, but be traced to other causes at least as probable.

If we compare two rows of large Trees, one row having small regular intervals, and the other large spaces between the Trees; although both are the same in extent, the former will produce infinitely more Variety and Beauty, and have more apparent Quantity than the latter. Can it be supposed that the Grecian Architects, whose acuteness led them to make the external Columns of their Porticoes larger than the others, because they observed that the different quantity of air which surrounded them, made them appear smaller; failed to perceive this increase of Beauty, Variety and Quantity in rows of Trees when planted close, and did not transpose the Effect so observed into their buildings.

"Their Hypoethral Temples which they knew not how to cover." It is true the Temples to Jupiter and other Divinities were partly uncovered, not for the reason here assigned, but because the Ancients did not think it suitable that particular Divinities should be confined in Temples.

The Dome of the Pantheon was not left with a hole in the centre from any deficiency in constructive knowledge, nor for light only, but rather it may be presumed in compliance with some religious mystery. The Temple of Minerva Medica was not lighted from the top, nor do I believe there is any other Ancient Temple lighted from a hole in the centre of the Dome. (*Plates* 20-27.)

The criticisms just alluded to, are, however, only venial sins, the result of early prejudices, and zeal for established opinions, they may have arisen from errors of the head, but not from a defect in the heart.

In these Lectures I have laboured to methodize and to bring into the smallest compass whatever information on our Art I have attained by reading, observation, and long practice, all that appeared to me worthy the attention of the Students and calculated to assist them in their Studies. I have likewise endeavoured to give the reasons for the opinions delivered. The Principles laid down in most of the Books on Architecture are too

* Sir William Chambers, R.A., in his "Civil Architecture." 1791 Edition.—*Editor's Note.*

often found to be so much at variance with each other, even upon very essential points. This arises, apparently, more out of fancy and caprice than from the result of sound judgment and accurate reflection, and is often times in contradistinction to First Principles and the Practice of the Greeks.

The warmest admirers of the other systems, however, will not hastily part company with the Greeks when they reflect for a moment, that whilst the various inventions of every kind, in different Ages and in different Countries, have been constantly fluctuating and have been frequently changed by a succession of alterations and improvements, the Works of the Greeks have remained to the present time the Standard of Taste and elegant Refinement. To their Three Orders of Architecture, after a lapse of Two Thousand Years, as has been before noticed, no addition has been made, nor has even one single moulding been added to those we have received from that highly intellectual people.

Genius, Theory, and Practice must be combined to make a great Artist. The seeds of Genius, the candidate for Architectural fame must receive from Nature. Theory in a great degree may be acquired in the course of his own study, by unremitting application and deep research. Experience, and the knowledge of the practice of Building, can only be fully attained by Time. No opportunity of improvement must be lost. The Students in Architecture should confer together on every occasion, and converse on the Beauties and Powers of Architecture. They should communicate to each other, reciprocally, the knowledge they have attained, the discoveries they have made, and by every effort endeavour to make this first of the liberal Arts as perfect as possible.

In this and the preceding Lectures I have endeavoured to render the Students in Architecture every assistance in my power in the pursuit of their studies of that noble Art. Much, however, remains to be done, for I have only been able to speak cursorily of many things of high importance, particularly as respects Construction and the great use and advantage to be derived from seeing and comparing Buildings of different descriptions.

To accomplish these objects several additional Discourses on Construction, accompanied not only with explanatory Drawings and Models, together with the results of practical experiments, would be necessary, but likewise some Lectures on Comparative Architecture would also be desirable. Without these additional Lectures, the Labours of the Professor will be still very incomplete. For these purposes I have collected a large quantity of Materials, which I trust on some future occasion to be able to digest, and arrange for the use of the Students.

Let me conclude by assuring the Students, that if my labours should prove useful to them, and are calculated to promote the knowledge and love of Architecture, to make its Value, Beauty, and true Principles more generally known, then the utmost extent of my ambition will be gratified, and the dearest and warmest wishes of my heart most completely attained.

"Content, if hence, th' unlearn'd their wants may view,
The learn'd reflect, on what before they knew,
Careless of censure, nor yet too fond of fame,
Still pleased to praise, yet not afraid to blame,
Averse alike to flatter or offend,
Not free from faults, not yet too vain to mend."

Sir John Soane, R.A.

Editor's Note.

At the close of this Lecture, read by Henry Howard, R.A., for Sir John Soane, in 1833, a public announcement was made of the gift of Sir John Soane's House and Collection for the purpose of promoting the Study of Architecture and the Allied Arts. It will be found printed in the "Description of the House," published by Sir John Soane, 1835-6.

End of Twelfth Lecture and Second Course.

FINIS

LECTURES ON ARCHITECTURE

By Sir John Soane, r.a.

LIST OF PLATES

Plate.

Frontispiece. Tivoli Corner of the Bank of England. Sir John Soane, r.a. 1802-8.

1. Roman Composition. Ruins of Palmyra restored.
2. Egyptian Composition. Pyramids and Temples.
3. Eyptian Composition. Pillars confined by massy angles.
4. Greek Composition. Pillars placed upon Pillars. Paestum.
5. Greek Composition. Temple. Greek Doric.
6. Roman Composition. Street of Tombs. Pompeii.
7. Doric Composition. Comparison of Doric Orders from the Antique.
8. Doric Orders. Greek and Roman.

   Greek Doric Order. Minerva at Athens.

   Roman Doric Orders. Order at Albano.
9. Ionic Composition. Comparison of Ionic Orders by Renaissance Masters.
10. Corinthian Orders. Temple at Jackly. Asia Minor. Castor and Pollux. Rome.
11. Corinthian Order. Temple of Vesta. Tivoli. (See 25 and 101).
12. Corinthian Composition. Comparison of Orders.
13. Tuscan Order. East Front, St. Paul's, Covent Garden. Inigo Jones, Architect.
14. Tuscan Order. West Front, St. Paul's, Covent Garden. Inigo Jones, Architect.
15. Ammonite Capital by G. Dance. Boydell's Gallery. Pall Mall (Destroyed).
16. Columns grouped with Pilasters at Angle. Temple of Clitumus. Drawing by John Soan in Italy, 1779.
17. Temple of Fortune, Praeneste. Restoration.
18. Temple of Isis. Pompeii. Drawn by J. S. in Italy.
19. Temple of Isis. Pompeii. Drawn by J. S. in Italy.
20. Minerva Medica at Rome. Drawn by Chantrell from J. Soan's Survey in 1779-80.
21. Eleusis. Restoration. Drawn by J. M. Gandy, a.r.a.
22. Church of All Hallows, London Wall. Interior. G. Dance, r.a., Architect.
23. Carlton House, Screen. Henry Holland, Architect. (1788-90. Destroyed c. 1827).
24. Tomb at Mylasa in Asia Minor.
25. Temple of Vesta at Tivoli. (See 11 and 101).
26. Pantheon, Rome. Portico.
27. Pantheon, Rome. Elevation. John Soan, Meas. et del. 1778-79.
28. Facades not Related to Flanks. Covent Garden Theatre. Back and Side Elevations. Sir Robert Smirke, r.a., Architect. 1809.
29. Earl Darnley's Mausoleum at Cobham. Kent James Wyatt, p.r.a., Architect. 1783.
30. Diocletian's Palace at Spalatro. Sea Front.
31. Roman Acqueducts. Pont du Gard. Nismes. France.
32. Westminster Abbey. Interior prior to 1815.
33. Westminster Hall. Interior drawn by George Basevi prior to 1816.
34. Campo Santo. Pisa.
35. Campo Santo. Pisa. Detail.
36. Fontana di Trevi. Drawn by Sir Wm. Chambers, r.a. Nicholas Salvi, Architect.
37. Sketch Section of the Corsini Chapel at St. John Lateran. Rome. Coloured drawing by John Soan, at Rome 1778-80.
38. The Colonnade at Burlington House. (Destroyed).
39. The Colonnade at Burlington House. Detail.
40. Elevation. Sandby's Bridge Design.
41. View. Sandby's Bridge Design.
42. Caesar's Bridge over the Rhine.
43. Trajan's Bridge over the Danube and old Westminster Bridge. Bridge at Brioude over the Allier....France
44. Acqueduct and Viaduct in Sicily. (Built 1765-1777).
45. The Princes Street Vestibule of the Bank. Sir John Soane, Architect. 1802.
46. Decorative Design of Terms by Sir Wm. Chambers, r.a.

PLATE.

47. TWO HOUSES ON THE WEST SIDE OF LINCOLN'S INN FIELDS.
Inigo Jones and Leoni.

48. THE LOTHBURY FRONT OF THE BANK OF ENGLAND.
Facing North. As built and designed 1796-1800.

49. ORIGINAL SKETCH BY JOHN SOANE.
First idea for a Senate House. Made at Rome in 1778-79. See Plate 115.

50 HOUSE OF LORDS DESIGN. 1794.
Sir John Soane, R.A., Architect.

51. SCALA REGIA.
1794 Design for new House of Lords.

52. ACQUA CLAUDIA. PORTA MAGGIORE. ROME.
Ancient Rustication.

53. HOUSE OF ZUCCHERO. FLORENCE.
Modern Rustication.

54. GREAT HALL OF THE BATHS OF DIOCLETIAN. ROME.

55. NATIONAL MONUMENT.
Design by Sir John Soane, R.A. Exhibited R.A. 1817.

56. DESIGN FOR MARYLEBONE CHURCH.
By Sir Wm. Chambers, R.A., about 1771. Elevation.

57. DESIGN FOR MARYLEBONE CHURCH.
By Sir Wm. Chambers, R.A. Section and Plan.

58. PANTHEON. PARIS.
Interior looking East. Drawn by Henry Parke in Paris with Sir John Soane, 1819.

59. PANTHEON. PARIS.
Interior view across Transept. Drawn by Henry Parke in Paris.

60. BRITISH COFFEE HOUSE.
Cockspur Street. Robert Adam, Architect. 1770. Destroyed 1878.

61. GREAT EATING ROOM.
Wilton House. Wilts. 1649(?) Inigo Jones, Architect. See Plate 73.

62. BANQUETING HOUSE.
Whitehall. 1619. Inigo Jones, Architect. R.A. Silver Medal drawing by Sir John Soane, R.A., 1772.

63. DESIGN BY GEORGE DANCE, R.A.
Great Gallery at Lansdowne House, Berkeley Square. 1794(?)

64. SOMERSET PALACE.
Strand. 1638. Inigo Jones, Architect. Drawn by John Soane, 1770. Destroyed 1776.

65. GEORGE DANCE, R.A.
Prize Design. Parma. 1763. Plan.

66. GEORGE DANCE, R.A.
Prize Design. Parma. 1763. Sections.

67. GEORGE DANCE, R.A.
Prize Design. Parma. 1763. Elevation.

68. ASHBURNHAM HOUSE.
Dean's Yard. Staircase by Inigo Jones. Drawn by G. Basevi.

69. STAIRCASE.
Queen's House. Old Buckingham House. St. James' Park. (Destroyed 1827).

70. STAIRCASE.
Queen's House. Cross Section. (Destroyed 1827).

71. STAIRCASE.
By Wm. Kent. Lord Clermont's House, Berkeley Square.

PLATE.

72. STAIRCASE.
Carrington House, Whitehall. Sir Wm. Chambers. Drawn by G. Basevi. (Destroyed).

STAIRCASE.
Buckingham House, Pall Mall. Sir John Soane. 1794. Drawn by G. Basevi. (Destroyed).

73. WILTON HOUSE, WILTS.
Garden Front. Inigo Jones, Architect. See Plate 61.

74. THIENE PALACE. VICENZA.
Side Elevation. A. Palladio, Architect.

75. CHERICATI PALACE, VICENZA.
(Now the Museum). A. Palladio, Architect.

76. VILLA CAPRA (ROTUNDA), VICENZA.
A Palladio, Architect.

77. STREET FACADE, PARIS.
Showing Mezzanine. Drawn by H. Parke in 1819.

78. BLENHEIM CASTLE, OXFORD.
Entrance Front. Sir John Vanbrugh. 1704.

79. CASTLE HOWARD, YORKS.
Entrance Front. Sir John Vanbrugh. 1699.

80. SEATON DELAVAL, NORTHUMBERLAND.
Entrance Front. Sir John Vanbrugh.

81. GRIMTHORPE, LINCOLNSHIRE.
Entrance Front. Sir John Vanbrugh.

82. LAURENTINUM.
Pliny's Villa. Restored by Edward Stevens

83. GARDEN AT HERRENHAUSEN NEAR HANOVER

84. BUILDINGS AT KEW GARDENS.
Sir Wm. Chambers, R.A. (Mostly destroyed).

85. FARNESE GARDENS ON THE PALATINE, ROME.
(Destroyed).

86. COLLEGE OF PHYSICIANS, WARWICK LANE.
Sir Chr. Wren, Architect. (1674-89). (Destroyed 1866).

87. COLLEGE OF PHYSICIANS, WARWICK LANE.
Interior of Quadrangle. (Destroyed 1879).

88. FISHMONGERS' HALL, LONDON BRIDGE.
(Destroyed 1830).

89. THE CIRCUS AT BATH COMPARED WITH THE COLOSSEUM AT ROME.

90. SOMERSET HOUSE.
First Plan. Sir Wm. Chambers, R.A.

91. SOMERSET HOUSE.
Strand Front. Sir Wm. Chambers, R.A. (1776-80).

92. SOMERSET HOUSE.
Interior of Quadrangle.

93. "SURGEONS THEATRE," PARIS.
Goudoin, Architect. 1744.

94. ST. PAUL'S CATHEDRAL.
Measured drawing by Sir John Soane, R.A.

95. ST. ROCHE, RUE ST. HONORÉ, PARIS.
Drawn in 1819.

96. BERNINI'S DESIGN FOR THE LOUVRE, PARIS. 1665.

97. PALAIS LEGION DE HONNEUR, PARIS.
Drawn by H. Parke in 1819.

98. HOTEL DE CONDÉ, PARIS.
Drawn by H. Parke in 1819.

99. PERE LA CHAISE CIMITIERE, PARIS.
Drawn by H. Parke in 1819.

PLATE.

100. BASIN CANAL D'OURC, PARIS.
Drawn by H. Parke in 1819.

101. FULL SIZE CAST OF THE TIVOLI TEMPLE ORDER IN SIR JOHN SOANE'S MUSEUM. (See 11 and 25).

102. HOUSE OF SIR JOHN VANBRUGH, WHITEHALL. 1699. (Destroyed).

103. HOUSES IN GROSVENOR SQUARE.
R. and J. Adam 1763(?).

104. INTERIOR ST. MARTIN'S IN THE FIELDS.
James Gibbs, Architect.

105. PLACE VENDOME, PARIS.
J. H. Mansart after 1687. Drawn by H. Parke in 1819.

106. HOUSES IN GREAT QUEEN STREET, HOLBORN.
Attributed to John Webb, Architect. (Destroyed).

107. 20 ST. JAMES SQUARE.
Robert Adam, Architect. 1772.

108. COMPARATIVE DRAWING.
St. Peters, Pantheon, Radcliffe, and Rotunda of the Bank.

109. BERNINI TOWER, WEST END.
St. Peter's, Rome. (Destroyed).

110. CONSTRUCTIONAL DRAWING. DULWICH ART GALLERY.
Sir John Soane, R.A. 1812.

PLATE.

111. CONSTRUCTIONAL DRAWING. CHELSEA INFIRMARY.
Sir John Soane, R.A. 1815.

112. CONSTRUCTIONAL DRAWING. CONSOLS OFFICE. BANK.
Sir John Soane, R.A., Architect. 1818-23.

113. CONSTRUCTIONAL DRAWING. CONSOLS OFFICE.
Plan of Vaulting. Sir John Soane, R.A. Architect. 1818-23.

114. TRIUMPHAL BRIDGE.
R.A. Gold Medal, 1776. Original Prize Drawing by J. Soan.

115. SENATE HOUSE DESIGN.
Sectional Drawing made in Rome 1778-79 by J. Soan. (See 49).

116. BASILICA, VICENZA (1545-49).
Andrea Palladio, Architect. 1518-1580.

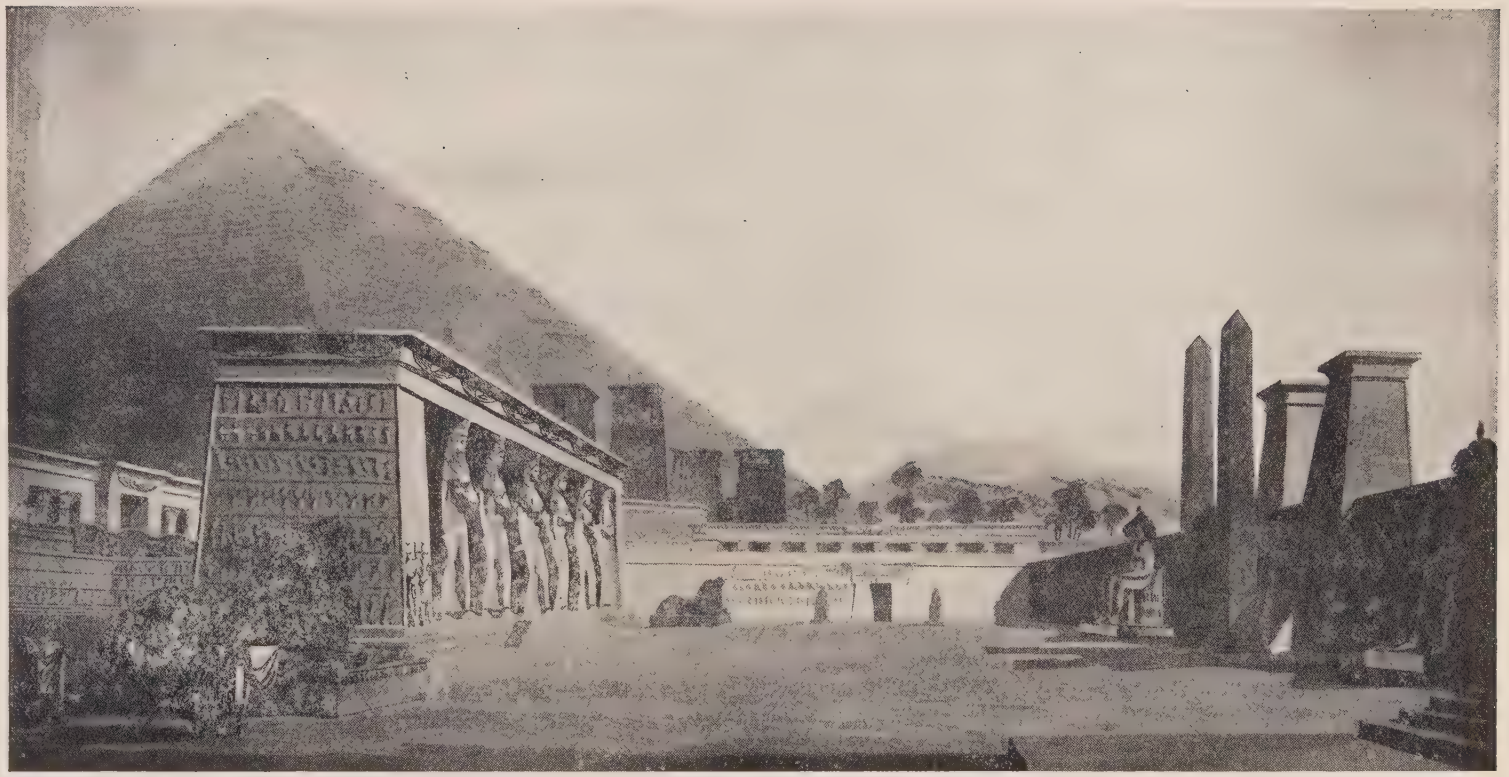
117. NEWGATE PRISON.
G. Dance, R.A., 1769. As altered after the 1780 fire. (Now destroyed).

118. COMPARATIVE DRAWING.
Parthenon and St. Martin's in the Fields.

119. THE SOANE FAMILY TOMB.
Old St. Pancras. Sir John Soane, R.A. 1816. Drawn by G. Basevi.

The Tailpieces at the ends of nine of the Lectures, are from photographs by Mr. Gee, from the plaster models obtained by Sir John Soane in Paris, about 1820. *Though not scientifically correct, they give an idea of some of the Ancient Buildings of Athens, Rome and Palmyra.*

ROMAN COMPOSITION
Ruins of Palmyra restored

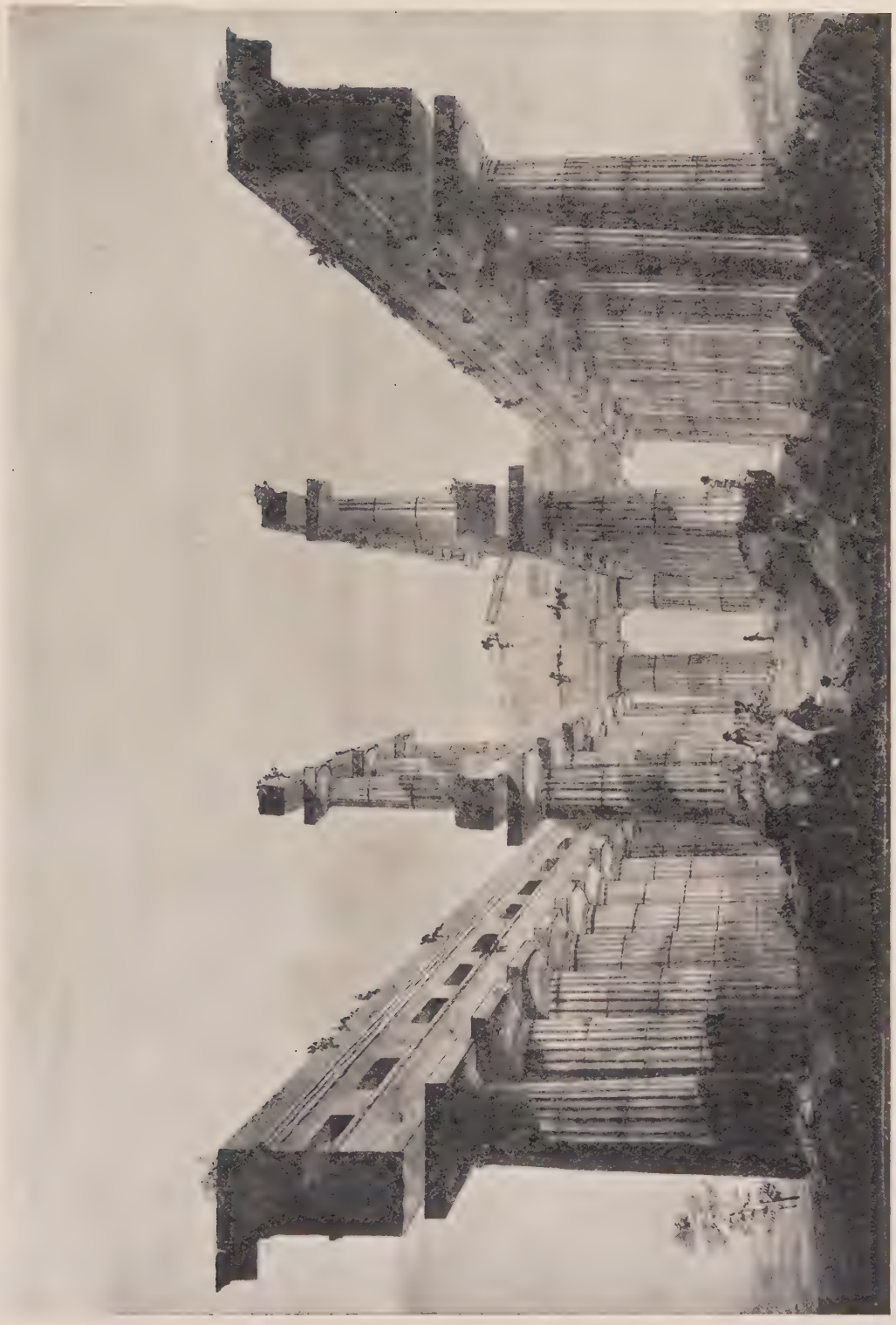


EGYPTIAN COMPOSITION

Pyramids and Temples

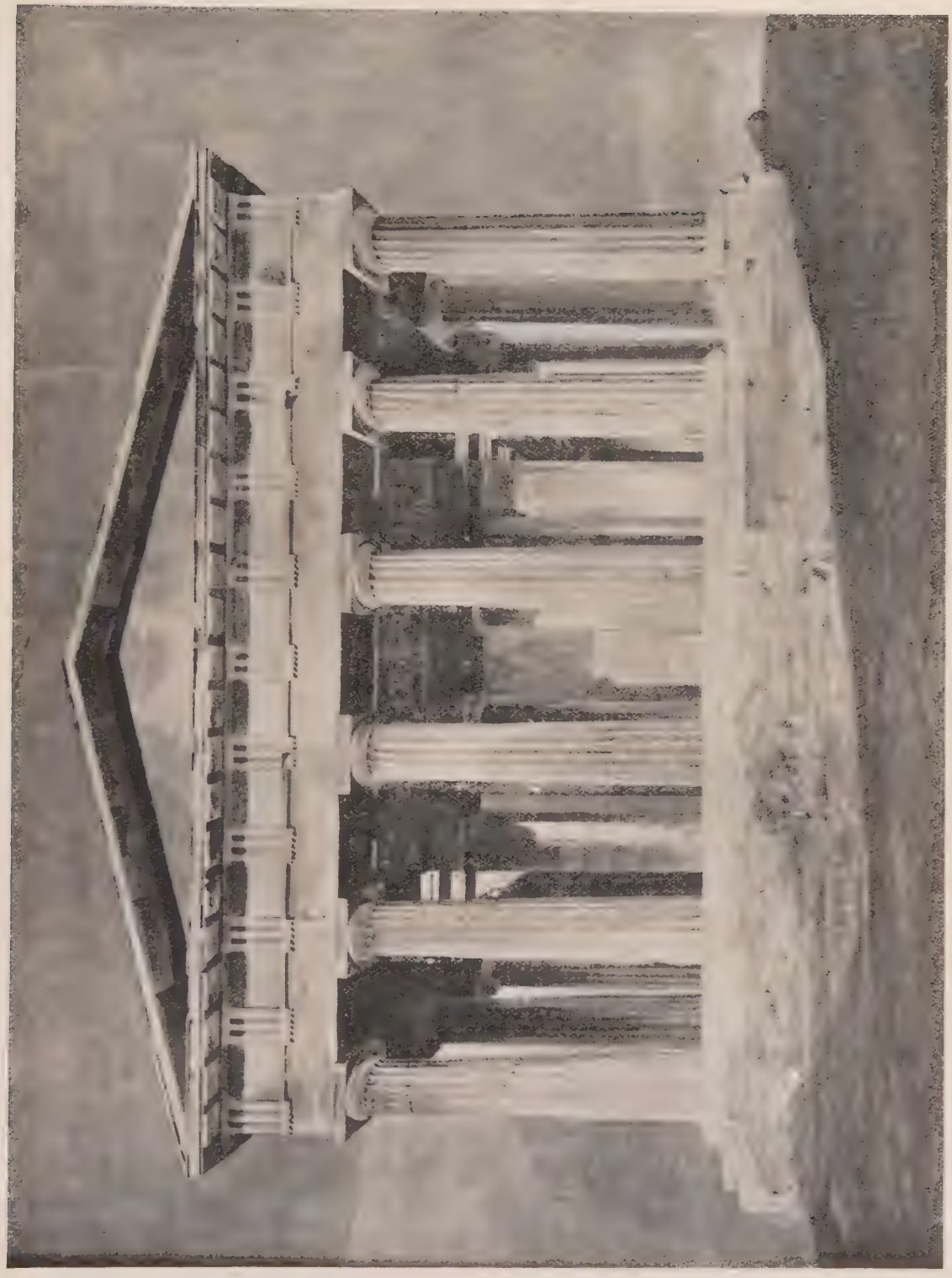
EGYPTIAN COMPOSITION

Pillars confined by Massy Angles



GREEK COMPOSITION

Pillars placed upon Pillars. Paestum

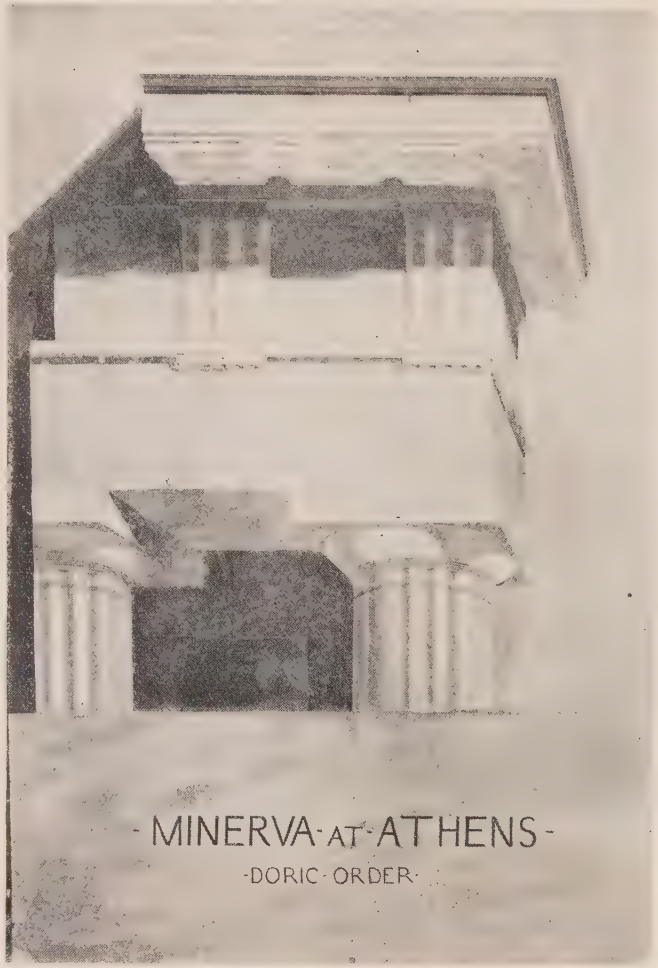


GREEK COMPOSITION
Temple. Greek Doric. (*See plate* 118)

ROMAN COMPOSITION
Street of Tombs. Pompeii

DORIC COMPOSITION

Comparison of Doric Orders from the Antique

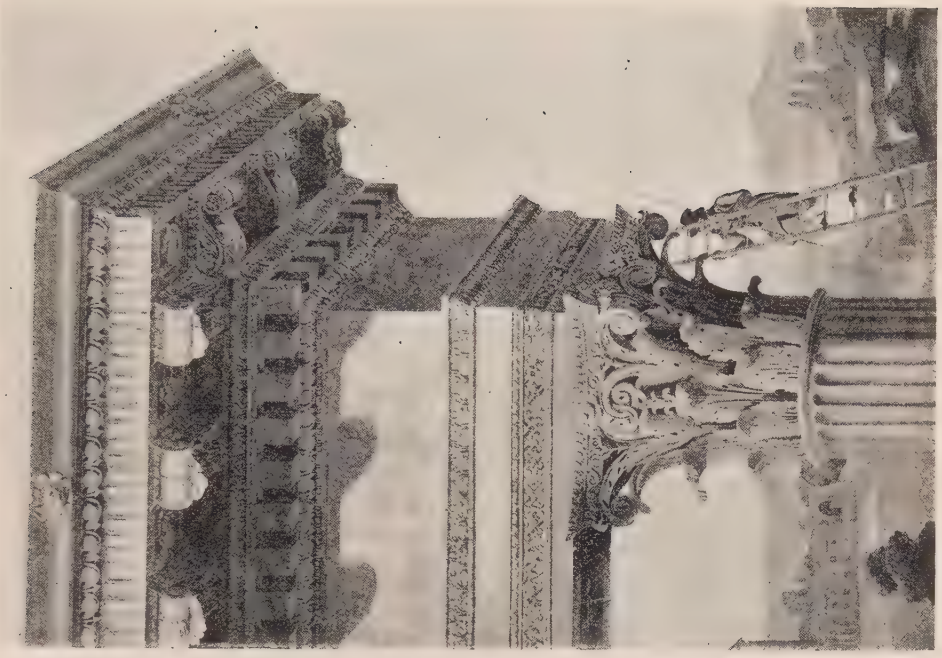


GREEK DORIC ORDER
Minerva at Athens

ROMAN DORIC ORDERS
Order at Albano

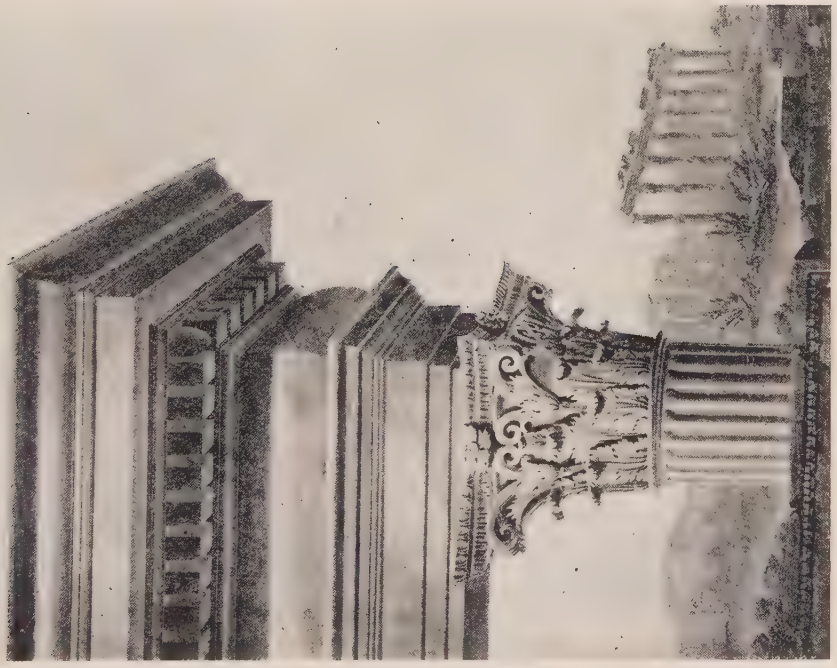
IONIC COMPOSITION

Comparison of Ionic Orders by Renaissance Masters



Castor and Pollux. Rome

CORINTHIAN ORDERS



Temple at Jackly. Asia Minor.

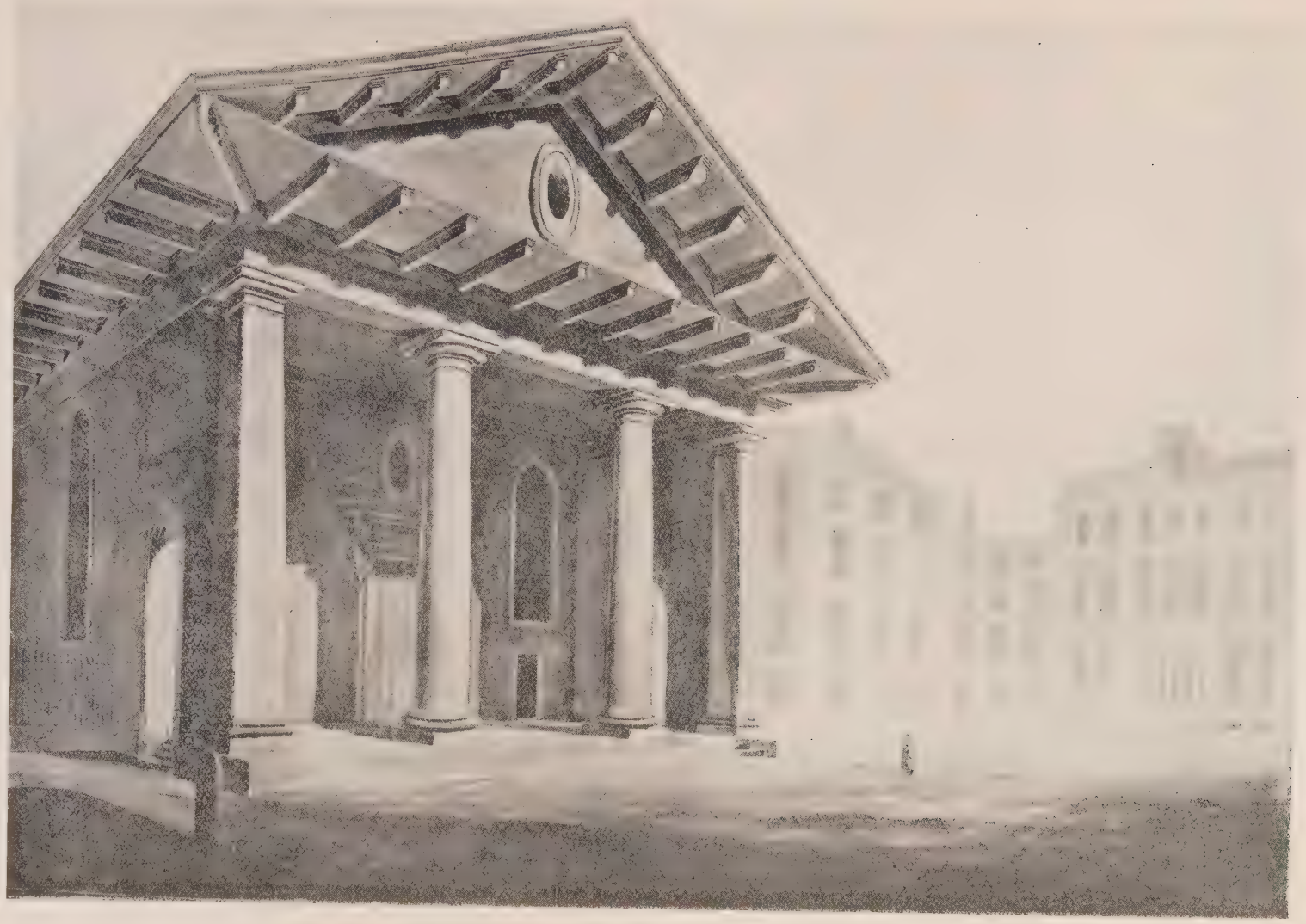
CORINTHIAN ORDER

Temple of Vesta. Tivoli

(*See also* 25-101)

CORINTHIAN COMPOSITION

Comparison of Orders



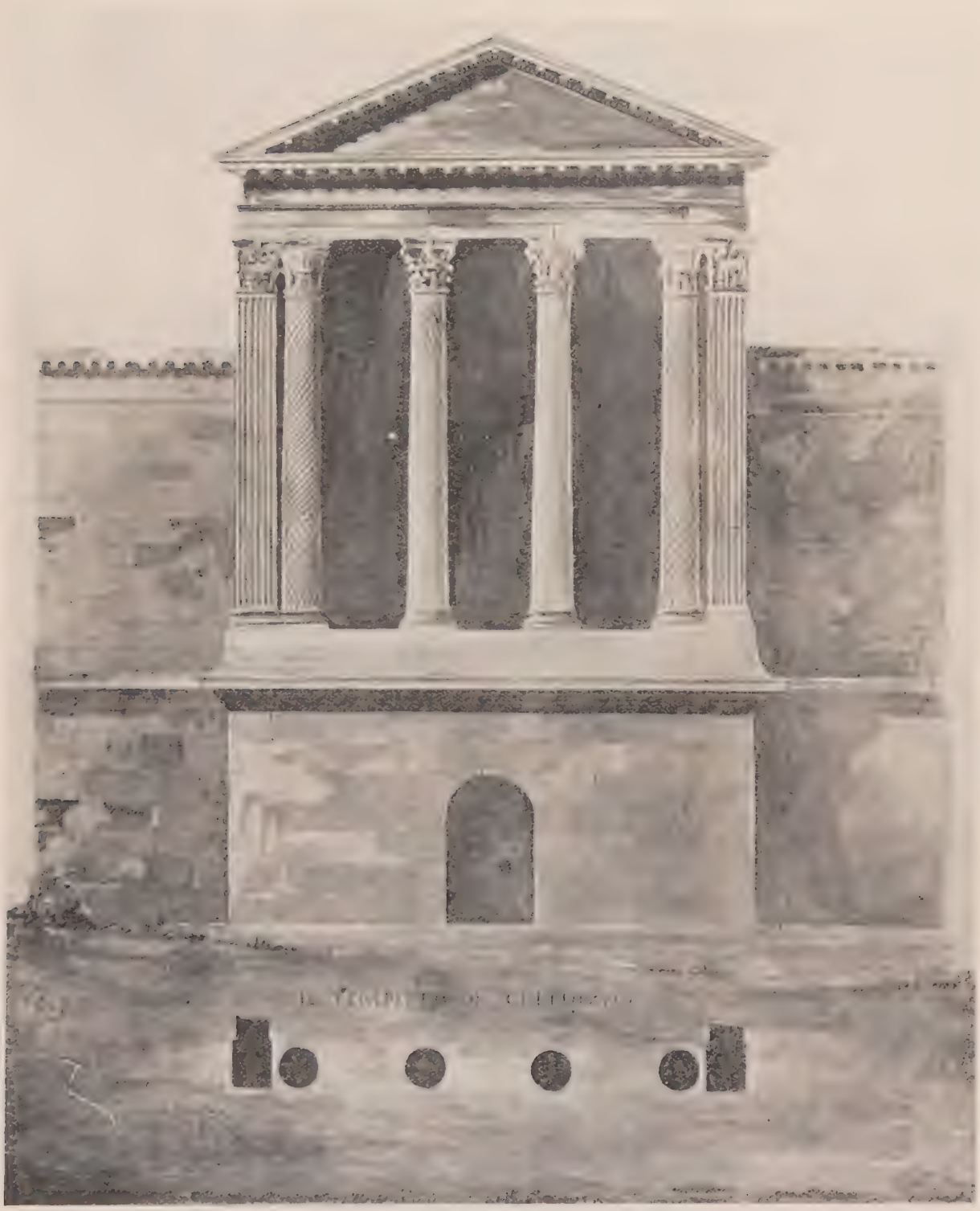
TUSCAN ORDER
East Front, St. Paul's, Covent Garden
Inigo Jones, Architect

TUSCAN ORDER

West Front, St Paul's, Covent Garden

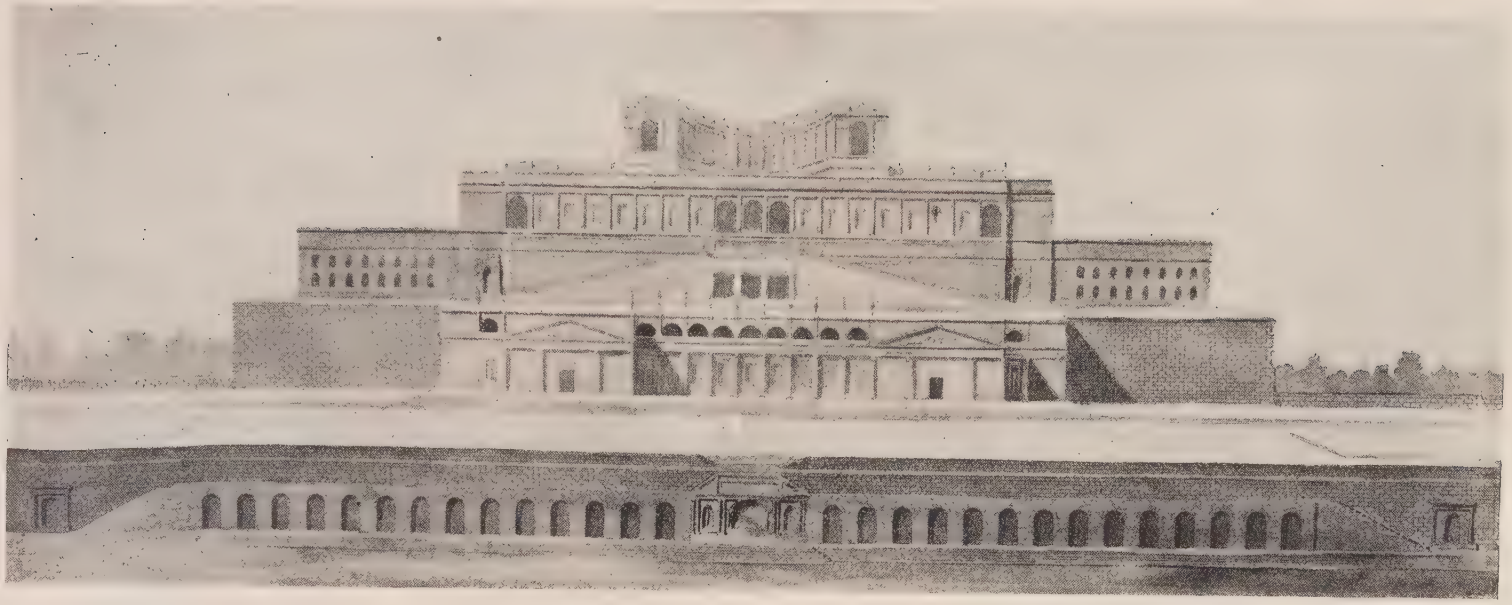
Inigo Jones, Architect

AMMONITE CAPITAL BY G. DANCE
Boydell's Gallery. Pall Mall (Destroyed).



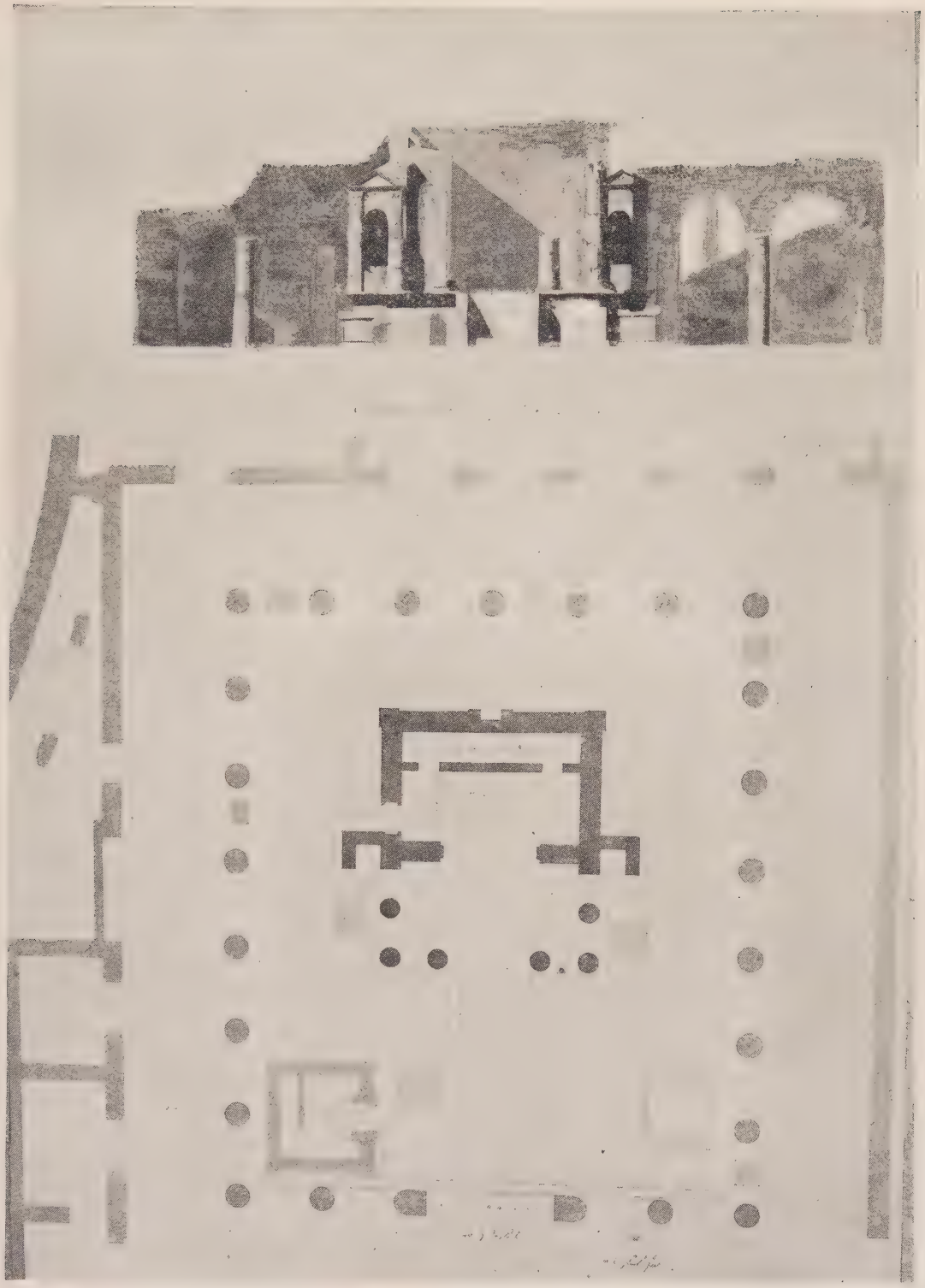
COLUMNS GROUPED WITH PILASTERS AT ANGLE

Temple of Clitumus. Drawing by John Soan in Italy, 1779



TEMPLE OF FORTUNE, PRAENESTE

Restoration



TEMPLE OF ISIS. POMPEII

Drawn by J. S. in Italy

TEMPLE OF ISIS. POMPEII

Drawn by J. S. in Italy

MINERVA MEDICA AT ROME

Drawn by Chantrell from J. Soan's Survey in 1779-80

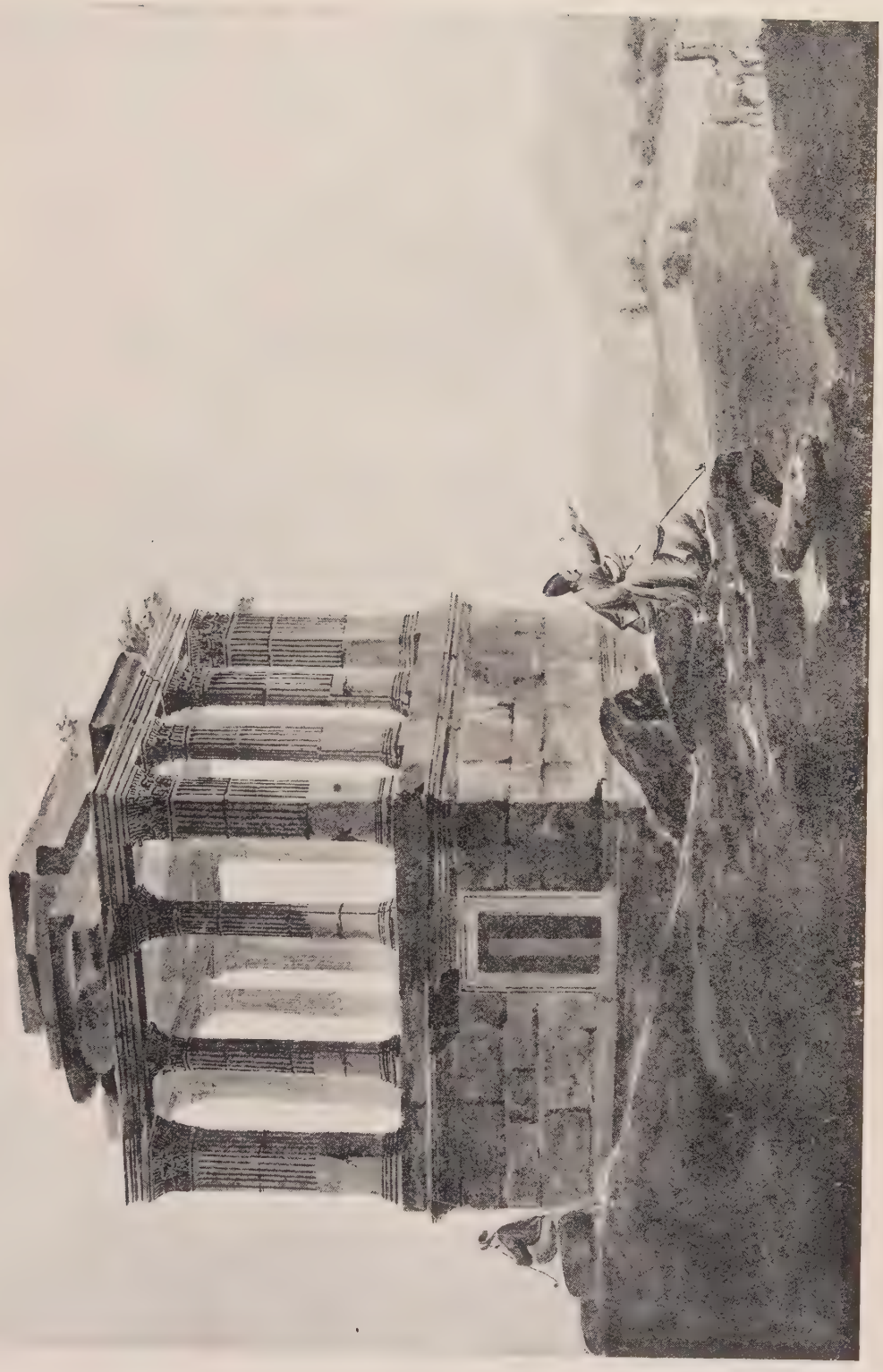
ELEUSIS

Restoration. Drawn by J. M. Gandy, A.R.A.

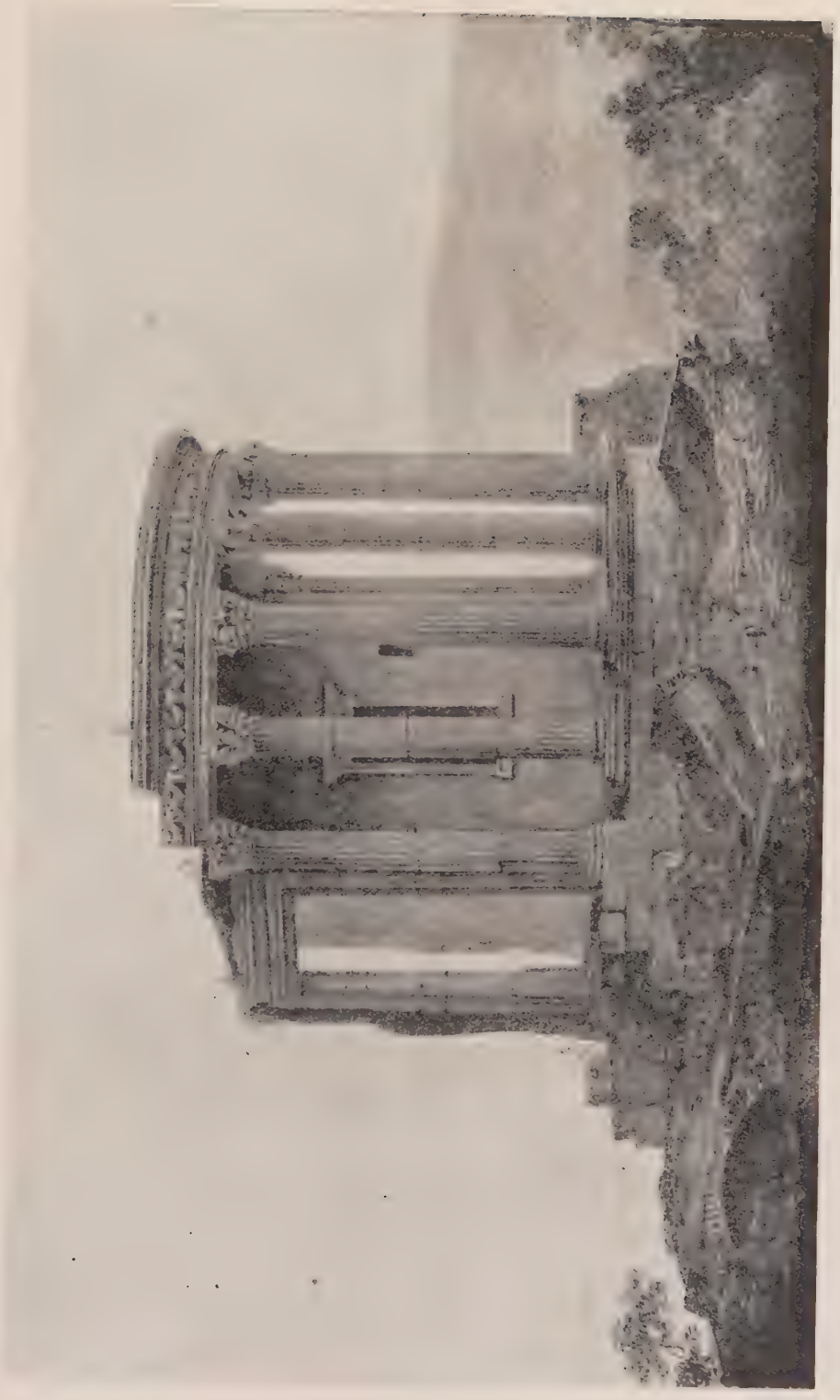
CHURCH OF ALL HALLOWS, LONDON WALL
Interior. G. Dance, R.A., Architect

CARLTON HOUSE, SCREEN

Henry Holland, Architect. (1788-90. *Destroyed c.* 1827).



TOMB AT MYLASA IN ASIA MINOR



TEMPLE OF VESTA AT TIVOLI

(*See plates* 11-101)

PANTHEON, ROME

Portico

PANTHEON, ROME

Elevation *John Soan, Meas. et del.* 1778-79

FACADES NOT RELATED TO FLANKS

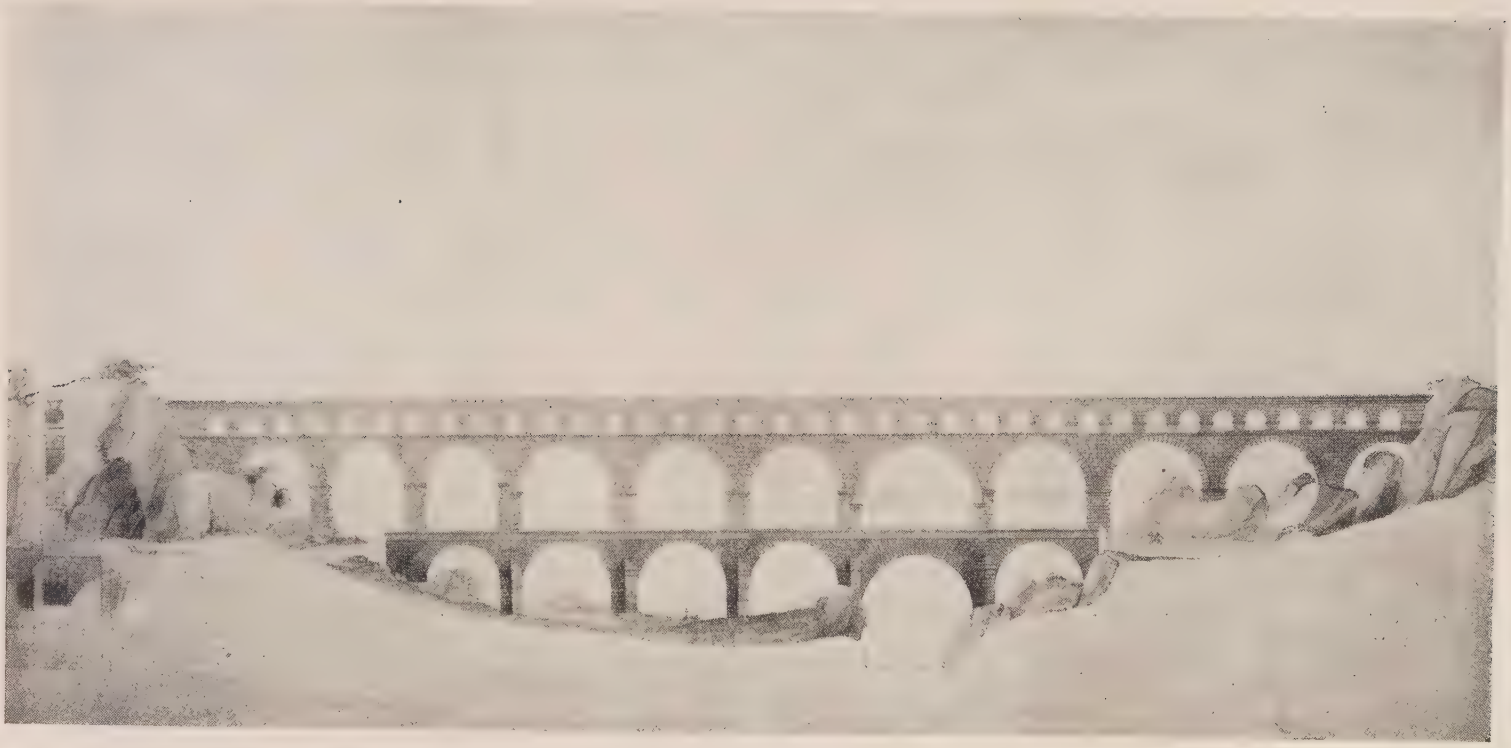
Covent Garden Theatre. Back and Side Elevations

Sir Robert Smirke, R.A., Architect. 1809.

EARL DARNLEY'S MAUSOLEUM AT COBHAM. KENT.

James Wyatt, P.R.A., Architect. 1783

DIOCLETIAN'S PALACE AT SPALATRO. SEA FRONT



ROMAN ACQUEDUCTS

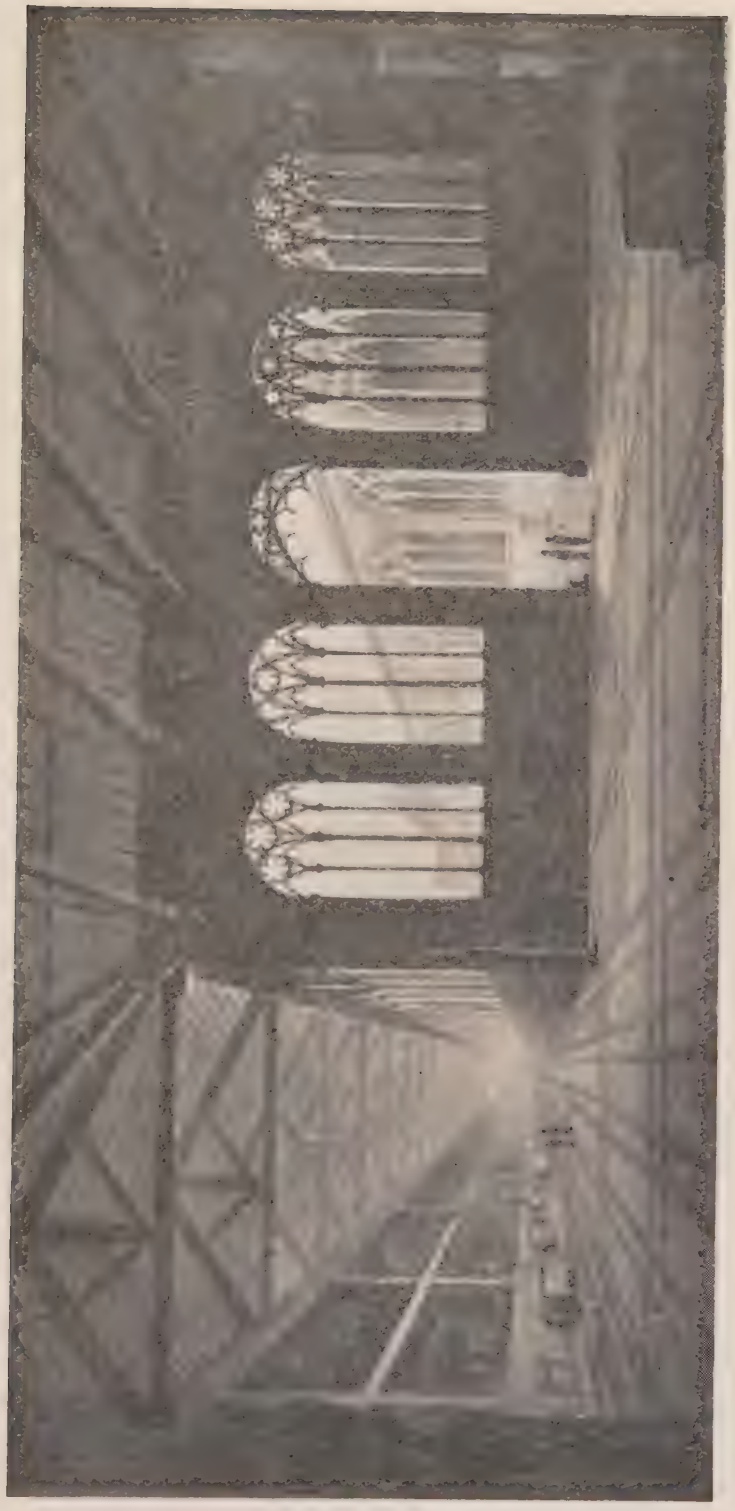
Pont du Gard. Nismes. France

WESTMINSTER ABBEY

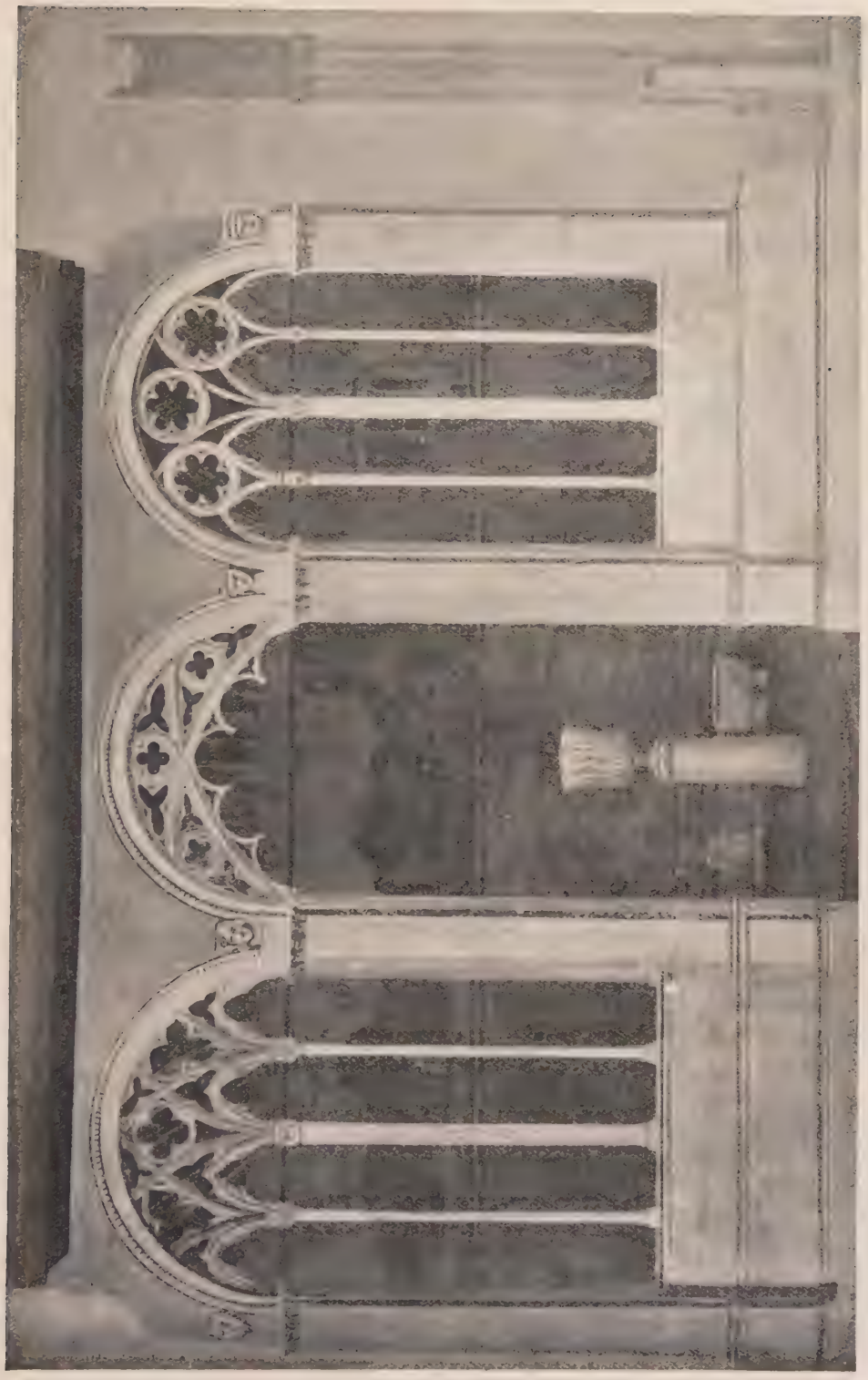
Interior prior to 1815.

WESTMINSTER HALL

Interior drawn by George Basevi prior to 1816



CAMPO SANTO PISA



CAMPO SANTO PISA

Detail

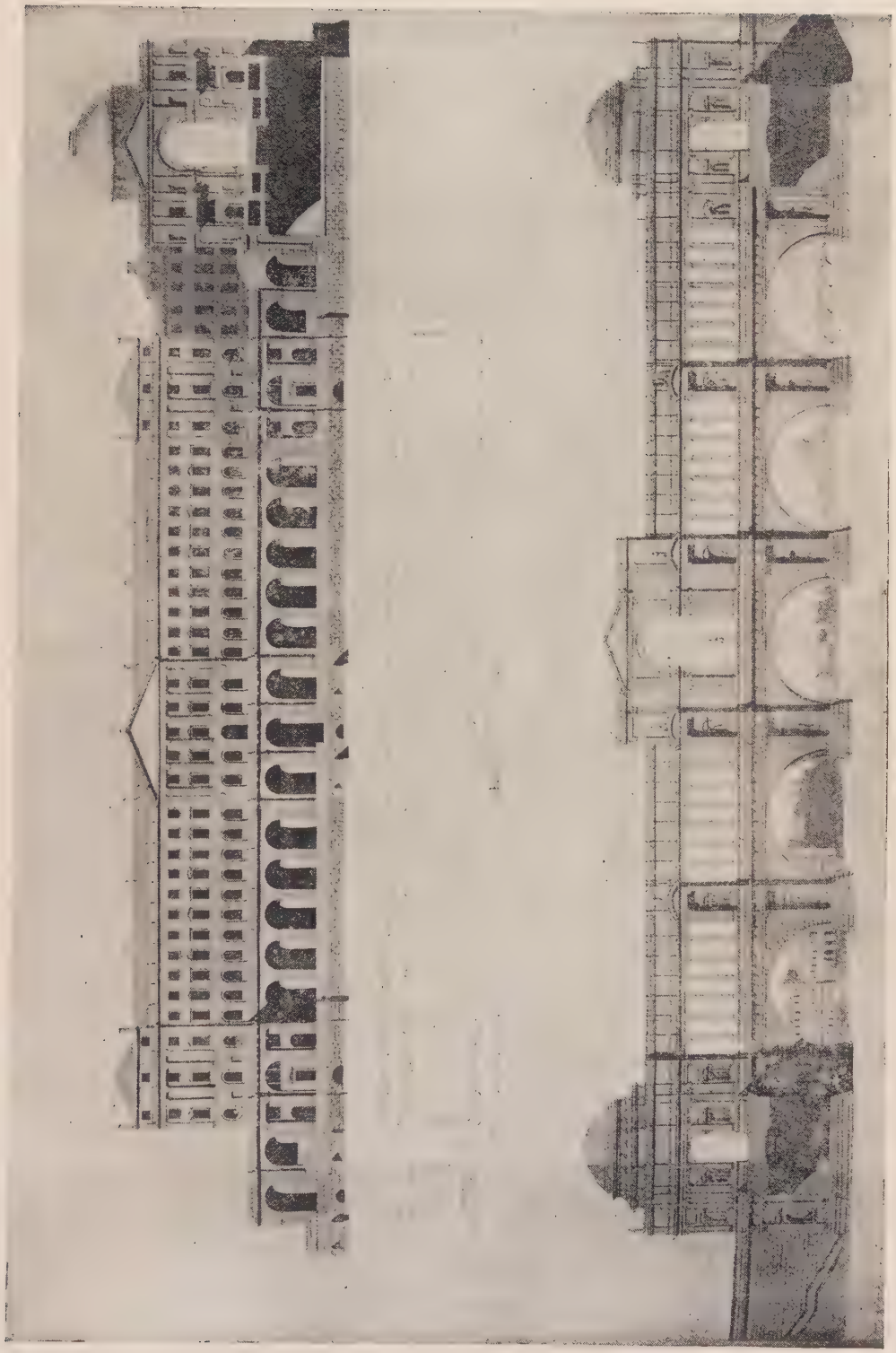
FONTANA DI TREVI

Drawn by Sir Wm. Chambers, R.A. Nicholas Salvi, Architect.

SKETCH SECTION OF THE CORSINI CHAPEL
AT ST. JOHN LATERAN. ROME.
Coloured Drawing by John Soan, at Rome 1778-80

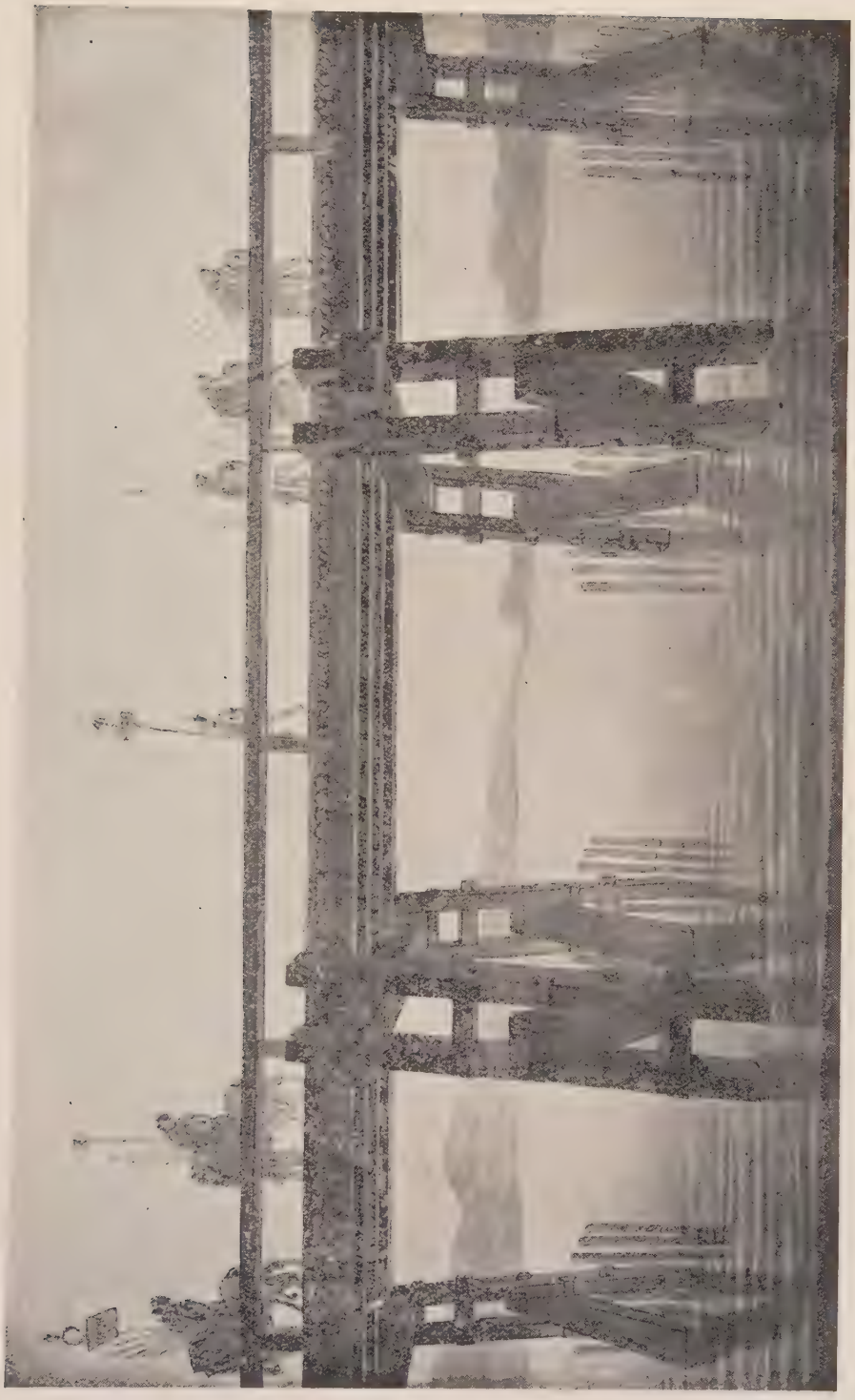
THE COLONNADE AT BURLINGTON HOUSE
(Destroyed)

THE COLONNADE AT BURLINGTON HOUSE
Detail



ELEVATION. SANDBY'S BRIDGE DESIGN

VIEW. SANDBY'S BRIDGE DESIGN



CAESAR'S BRIDGE OVER THE RHINE

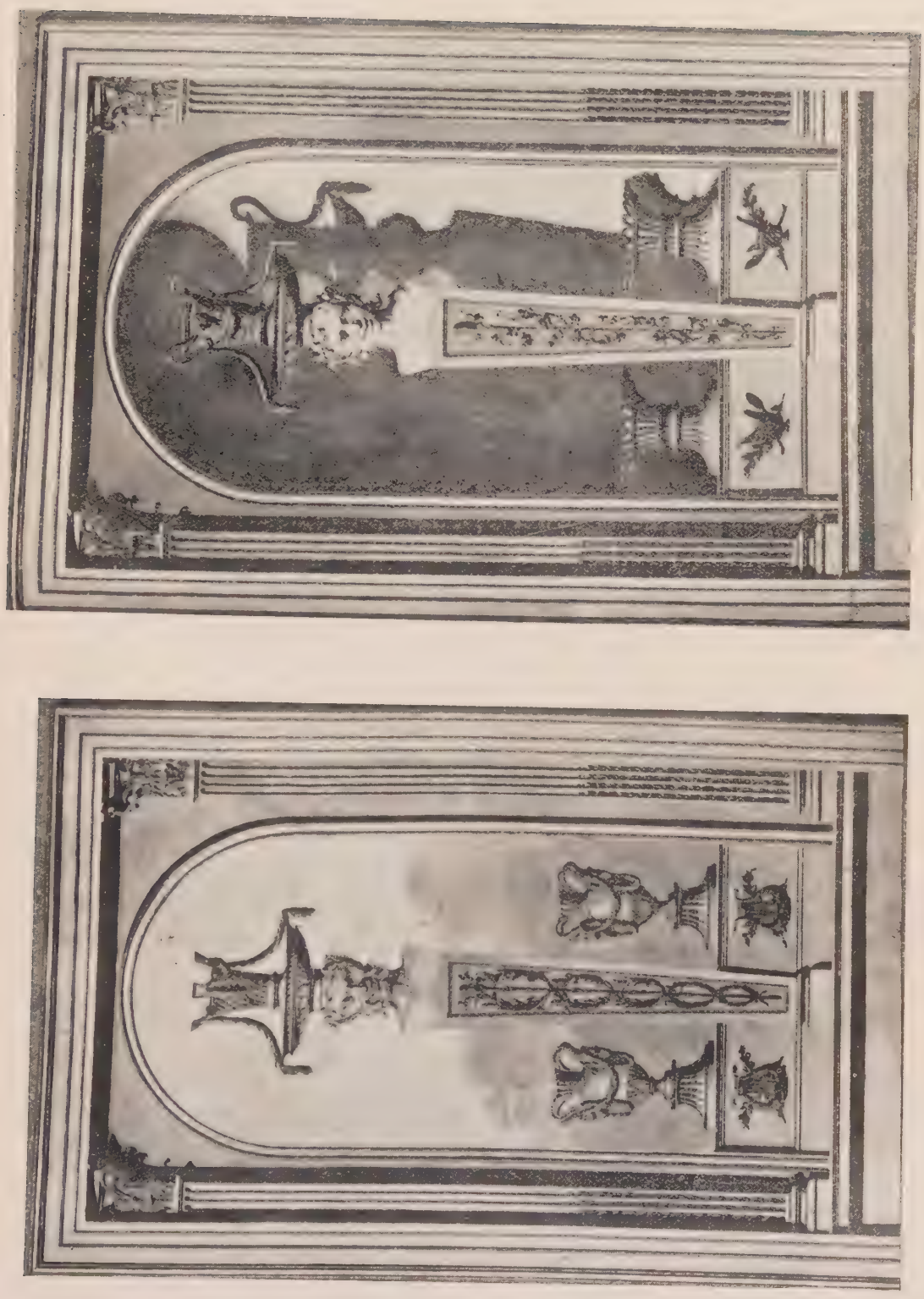
TRAJAN'S BRIDGE OVER THE DANUBE AND
OLD WESTMINSTER BRIDGE

BRIDGE AT BRIOUDE OVER THE ALLIER. FRANCE.

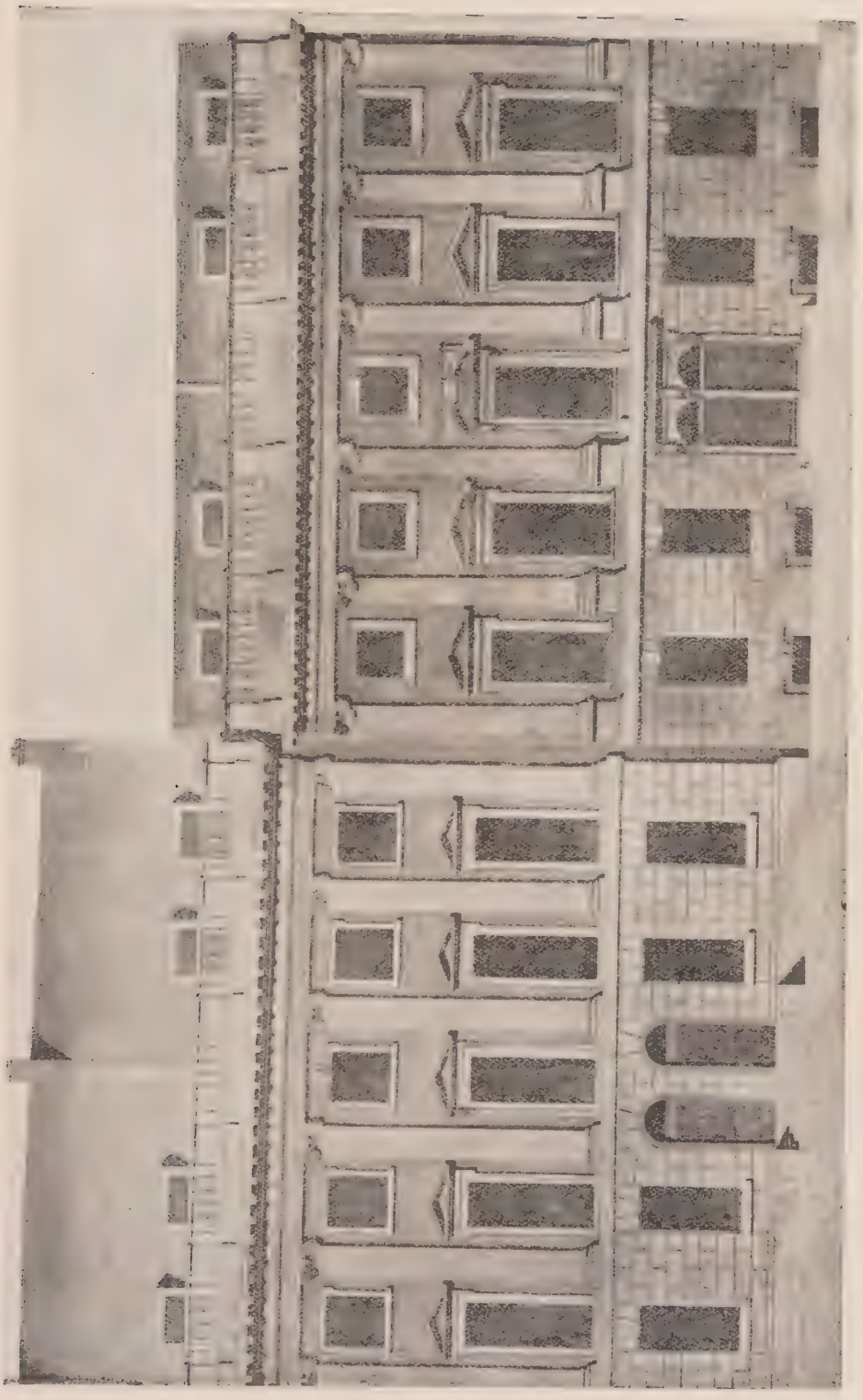
ACQUEDUCT AND VIADUCT IN SICILY

(*Built* 1765-1777)

THE PRINCES STREET VESTIBULE OF THE BANK
Sir John Soane, Architect. 1802

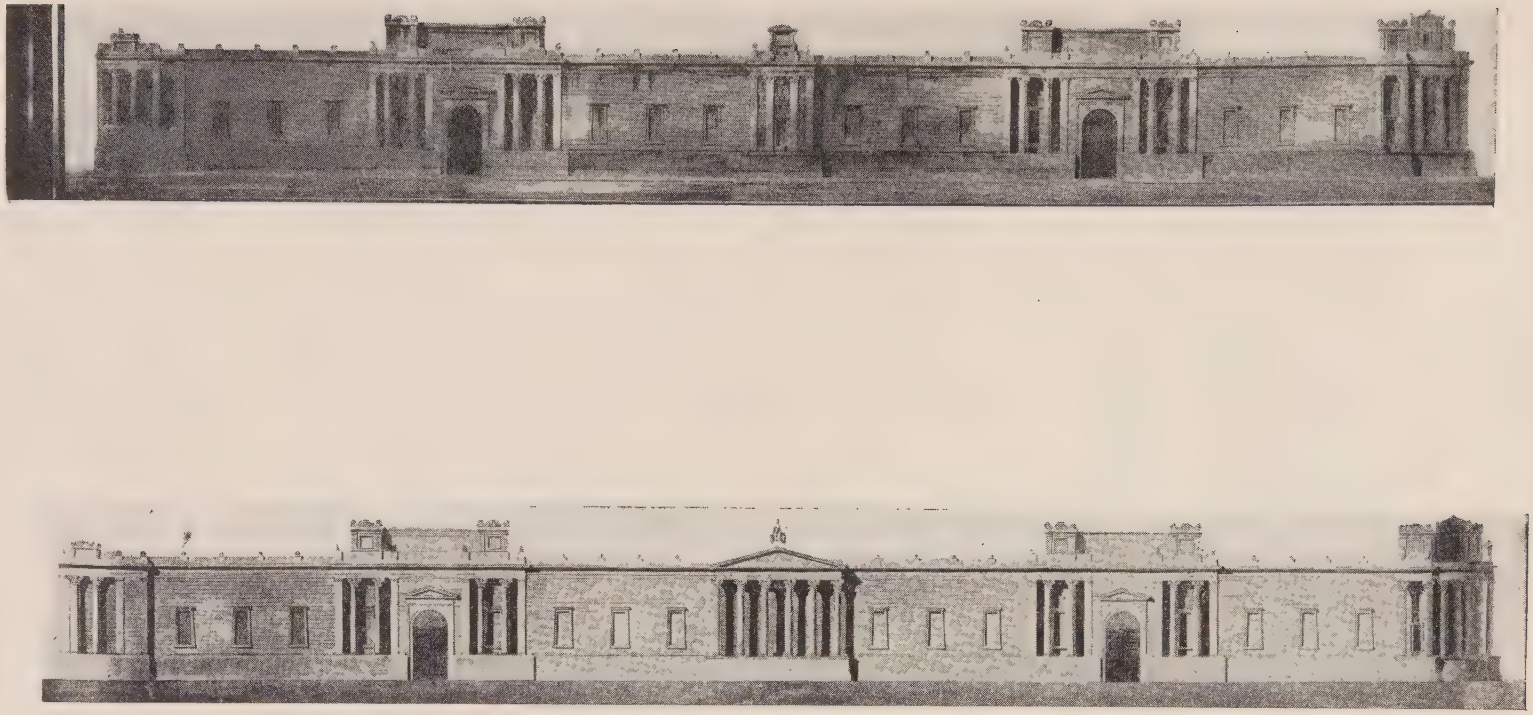


DECORATIVE DESIGN OF TERMS BY SIR WILLIAM CHAMBERS, R.A.



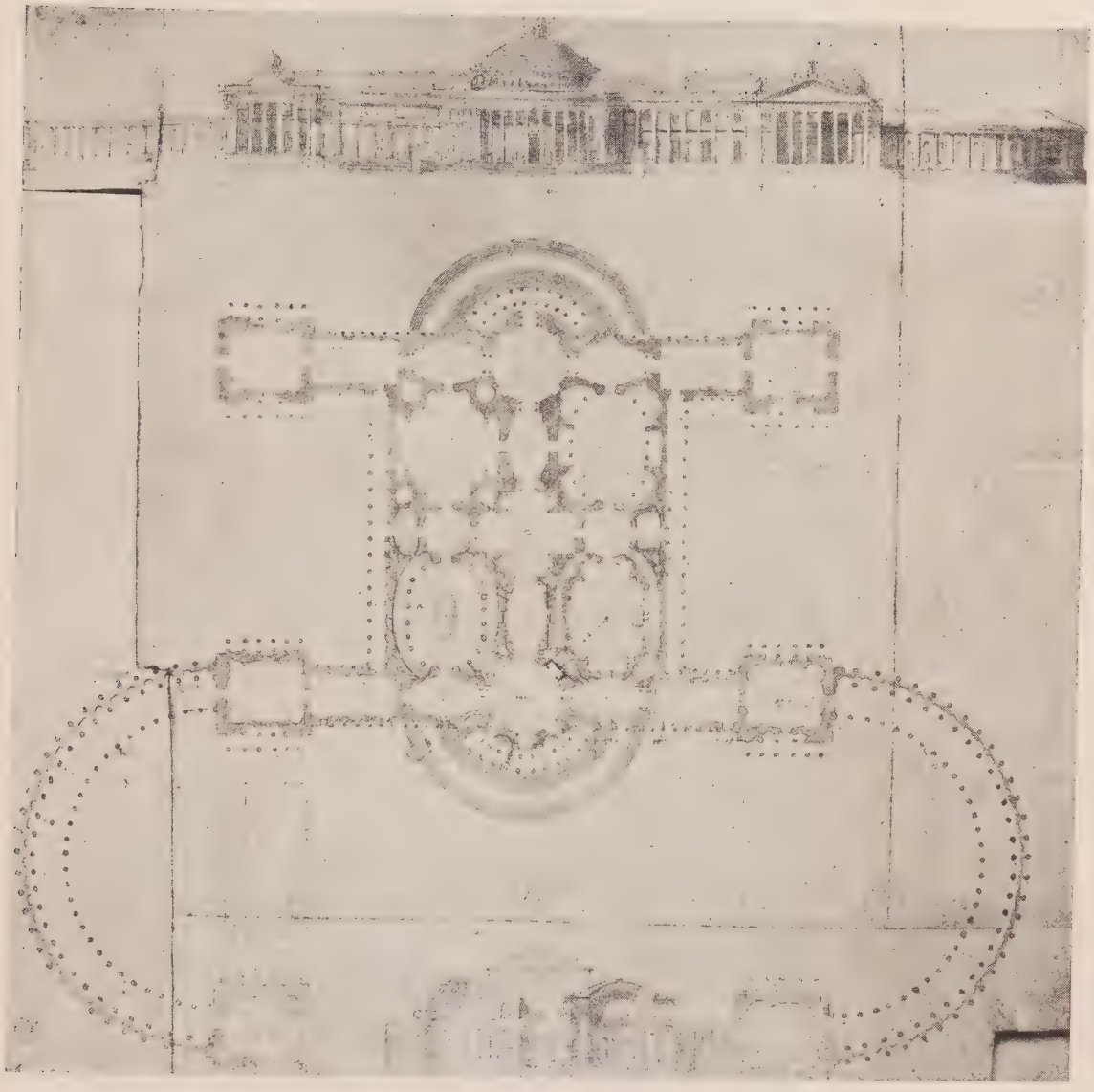
TWO HOUSES ON THE WEST SIDE OF LINCOLN'S INN FIELDS

Leoni *Inigo Jones*



THE LOTHBURY FRONT OF THE BANK OF ENGLAND

Facing North. As built and designed 1796-1800



ORIGINAL SKETCH BY JOHN SOAN

First idea for a Senate House. Made at Rome in 1778-79

(*See plate* 115)

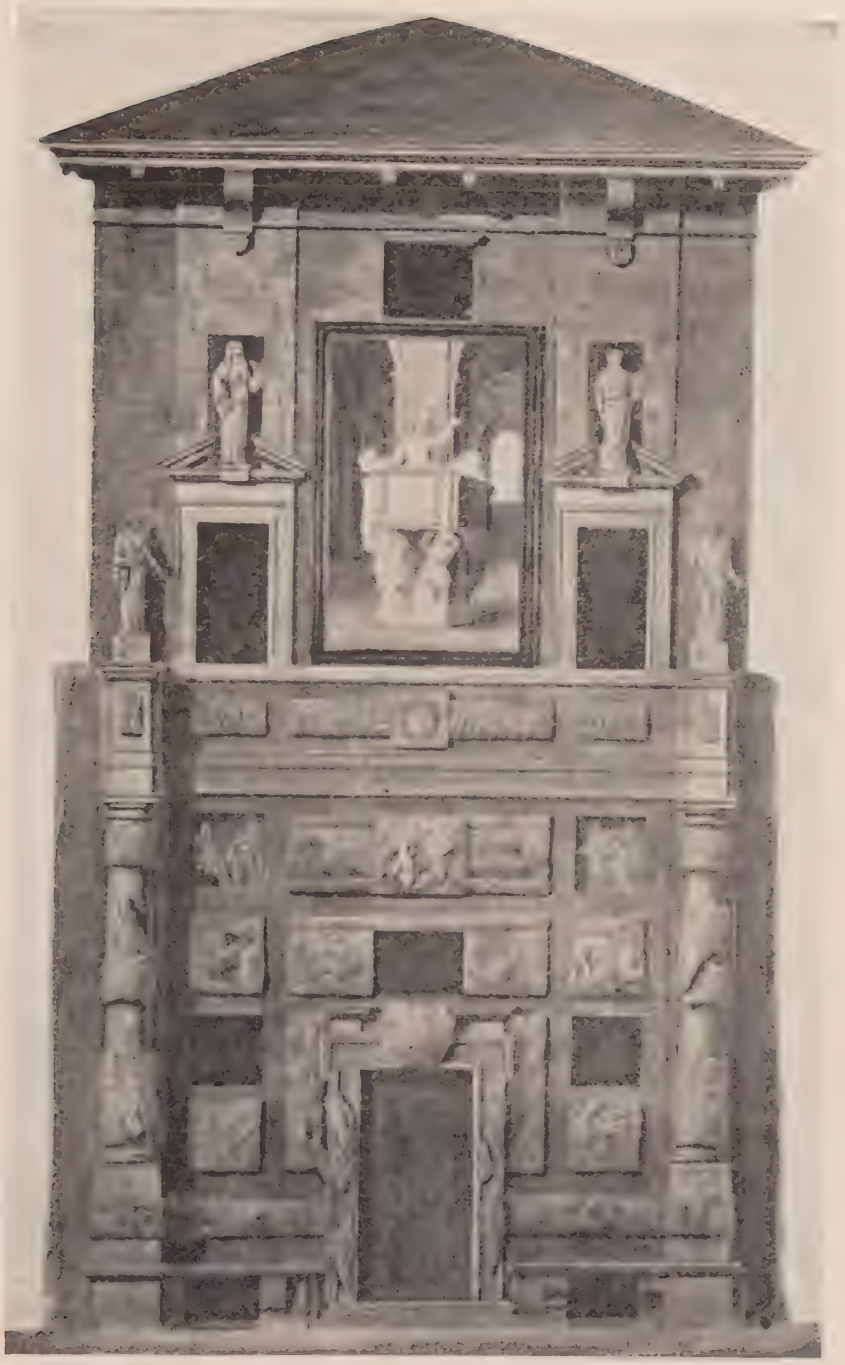
HOUSE OF LORDS DESIGN. 1794
Sir John Soane, R.A., Architect
R.A. Diploma Drawing. (*By permission*)

SCALA REGIA

1794 *Design for new House of Lords*

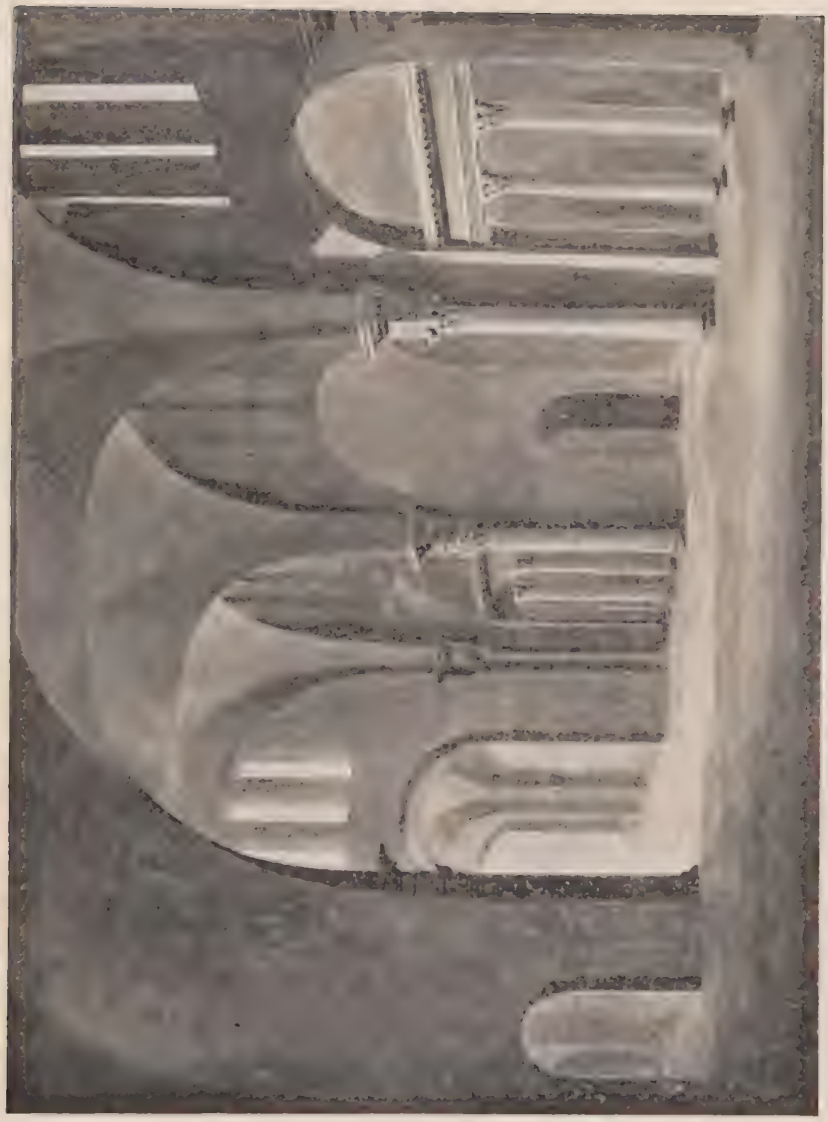
ACQU.I CL.IUDI.I PORTA MAGGIORE. ROME

Ancient Restoration

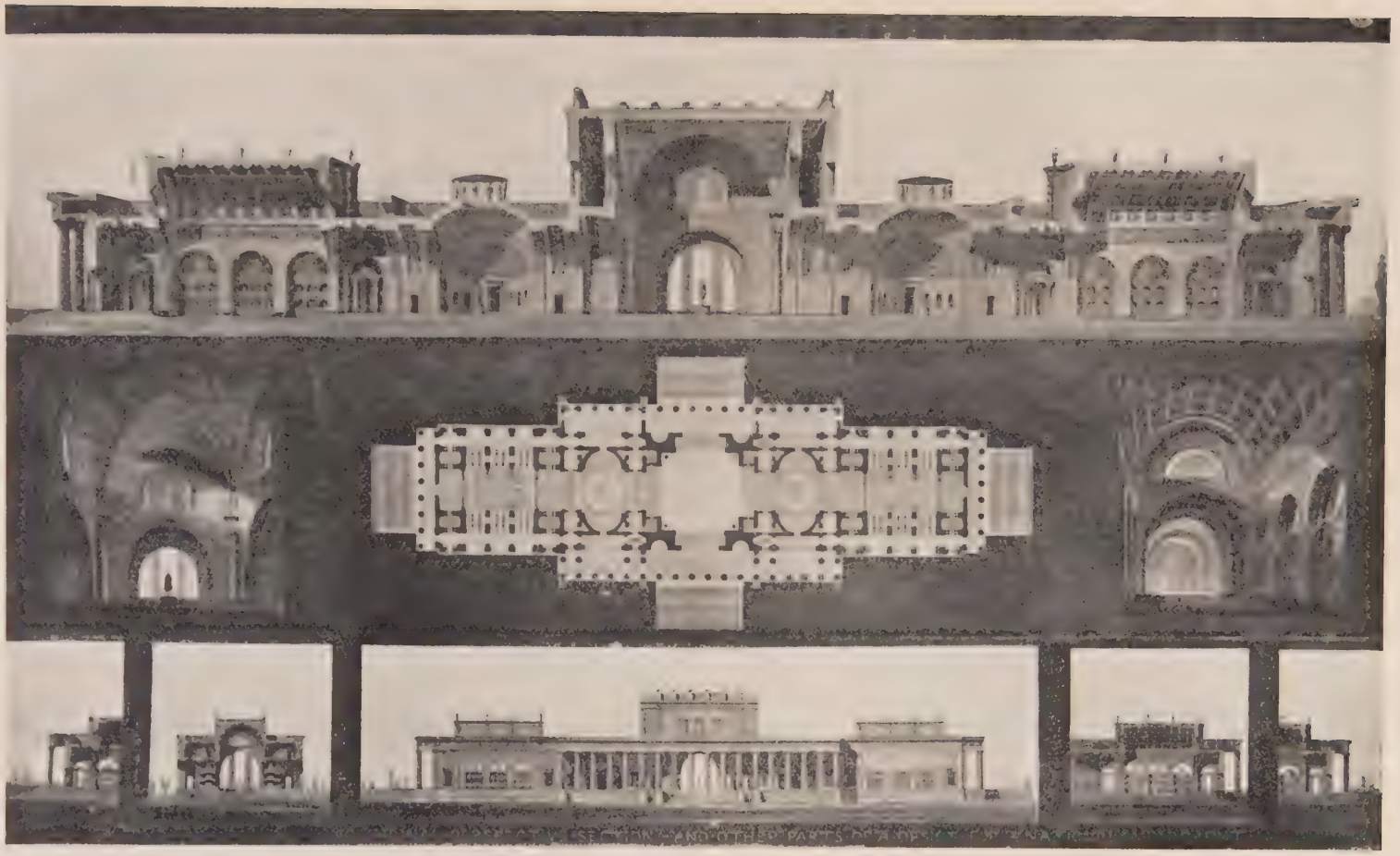


HOUSE OF ZUCCHERO. FLORENCE

Modern Rustication



GREAT HALL OF THE BATHS OF DIOCLETIAN. ROME

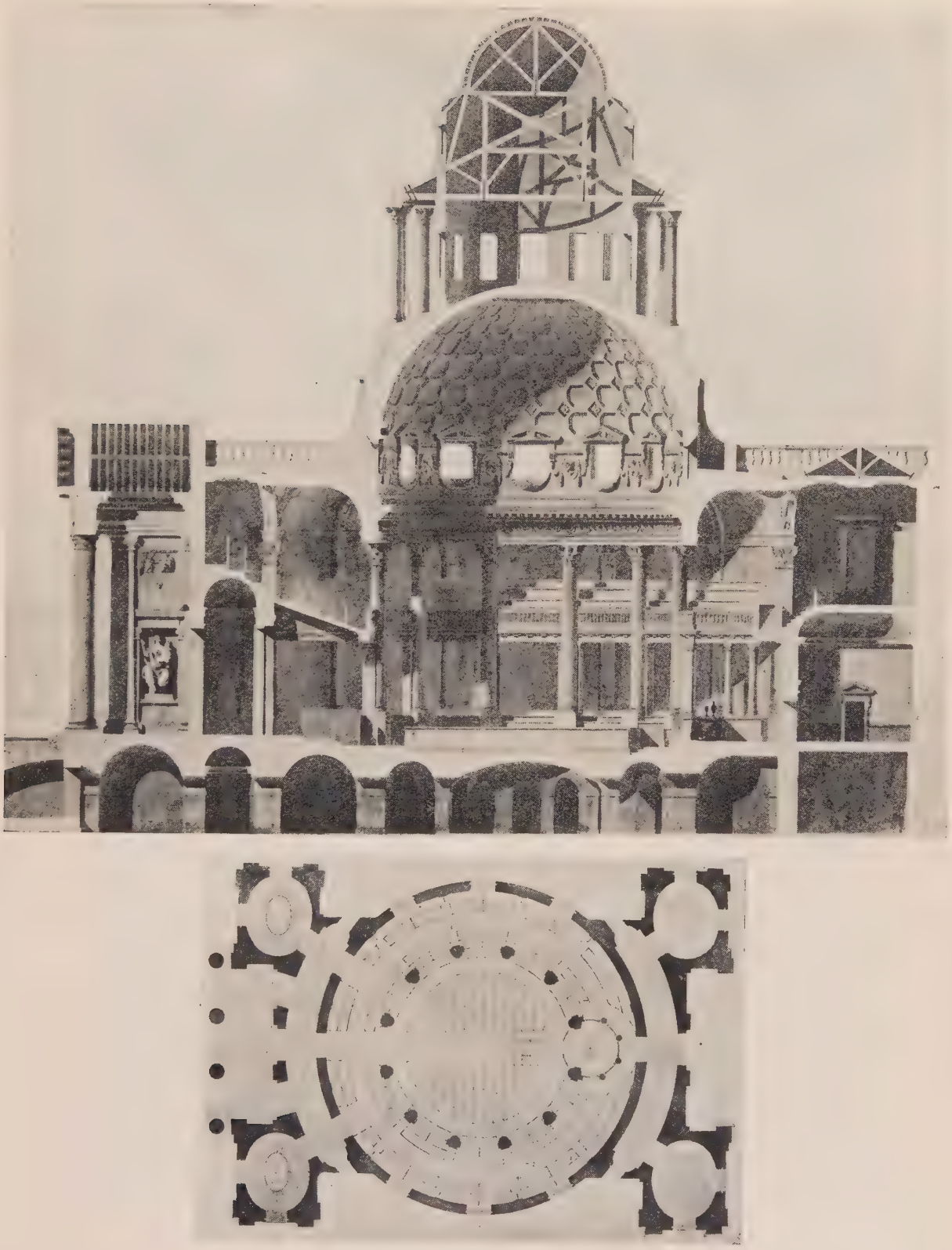


NATIONAL MONUMENT

Design by Sir John Soane, R.A. Exhibited R.A. 1817

DESIGN FOR MARYLEBONE CHURCH

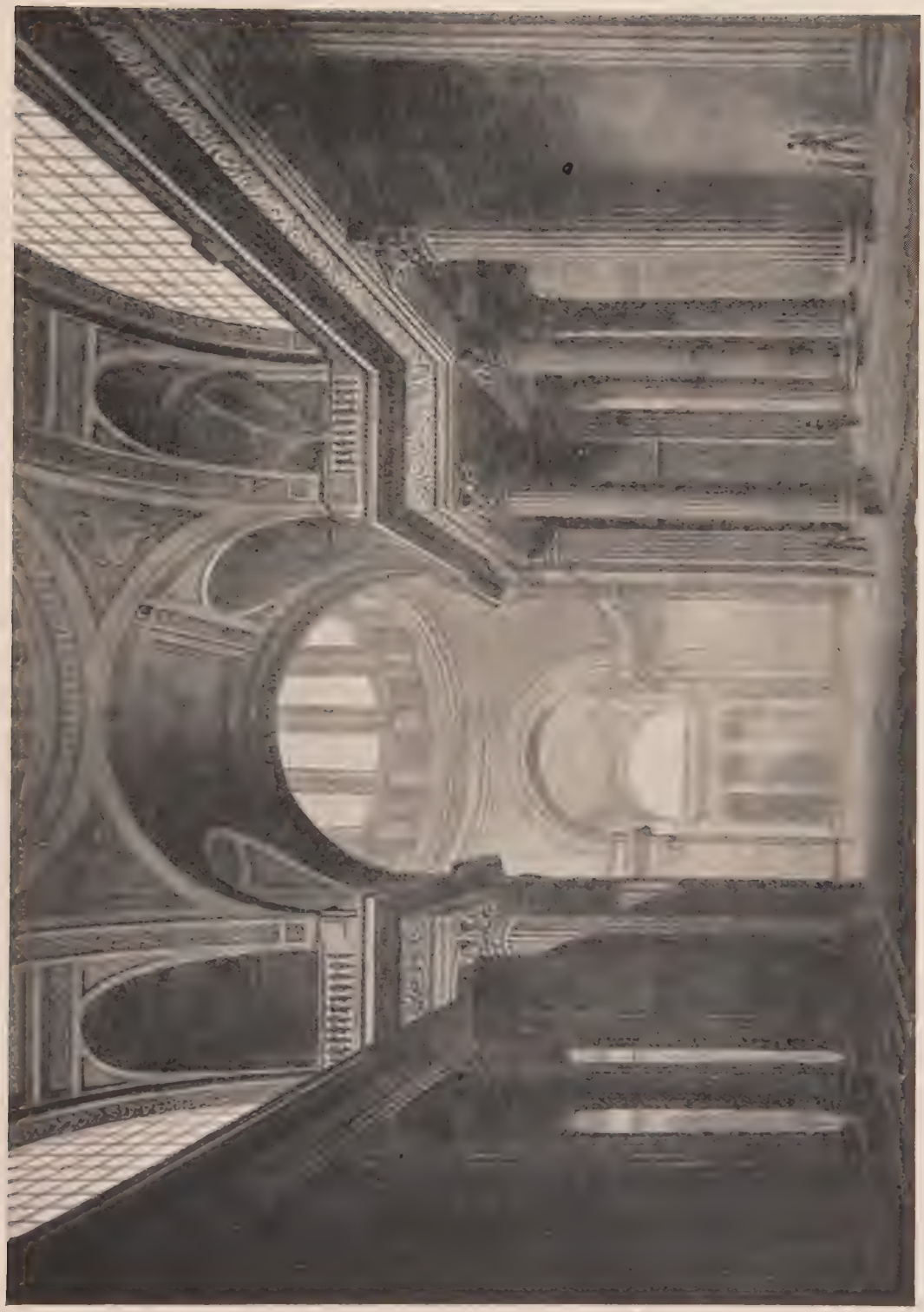
By Sir William Chambers, R.A., about 1771. *Elevation*



DESIGN FOR MARYLEBONE CHURCH
By Sir Wm. Chambers, R.A. Section and Plan

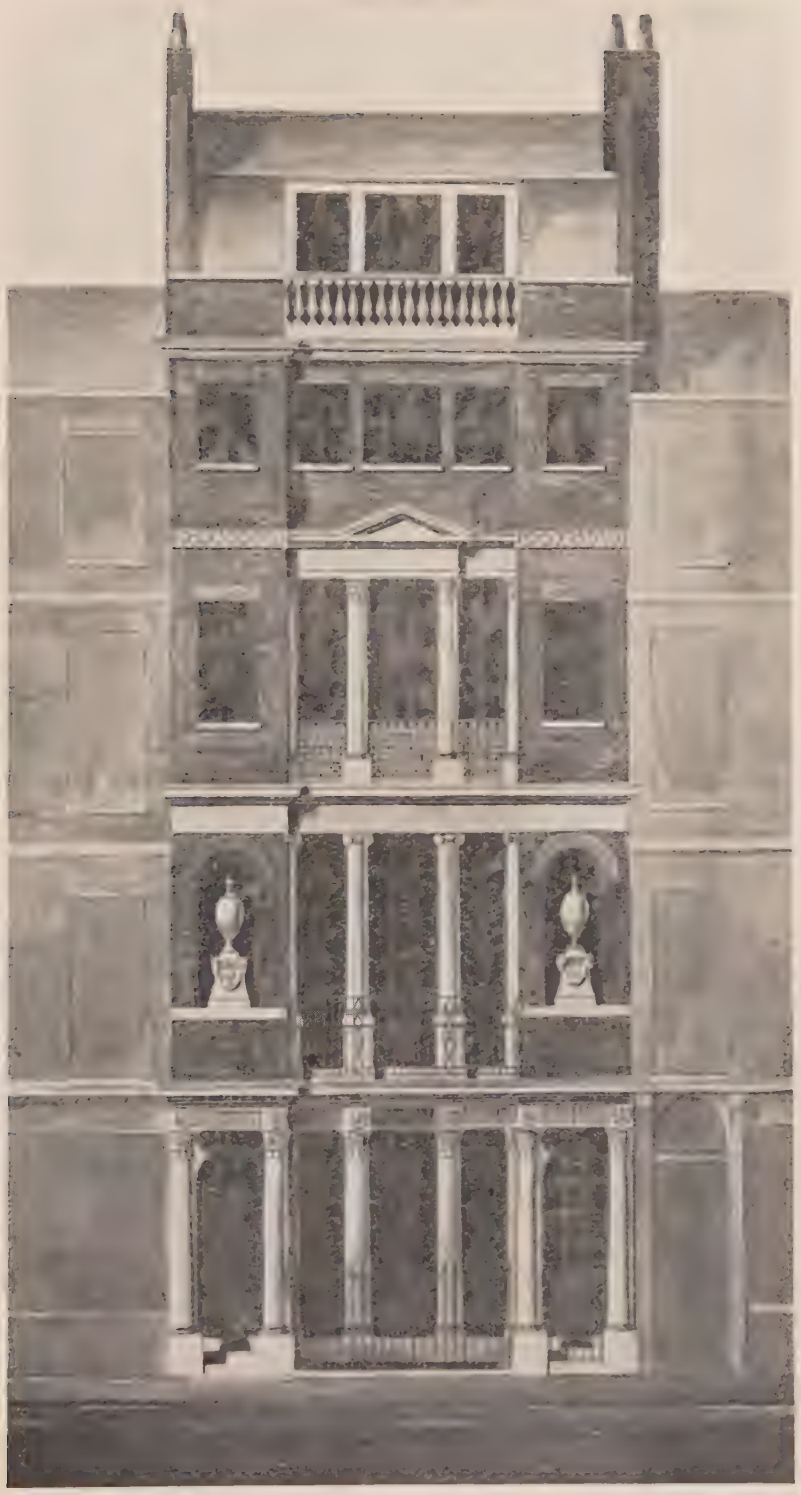
PANTHEON. PARIS

Interior looking East. Drawn by Henry Parke in Paris with Sir John Soane, 1819



PANTHEON. PARIS

Interior view across Transept. Drawn by H[illegible] Parke at Paris



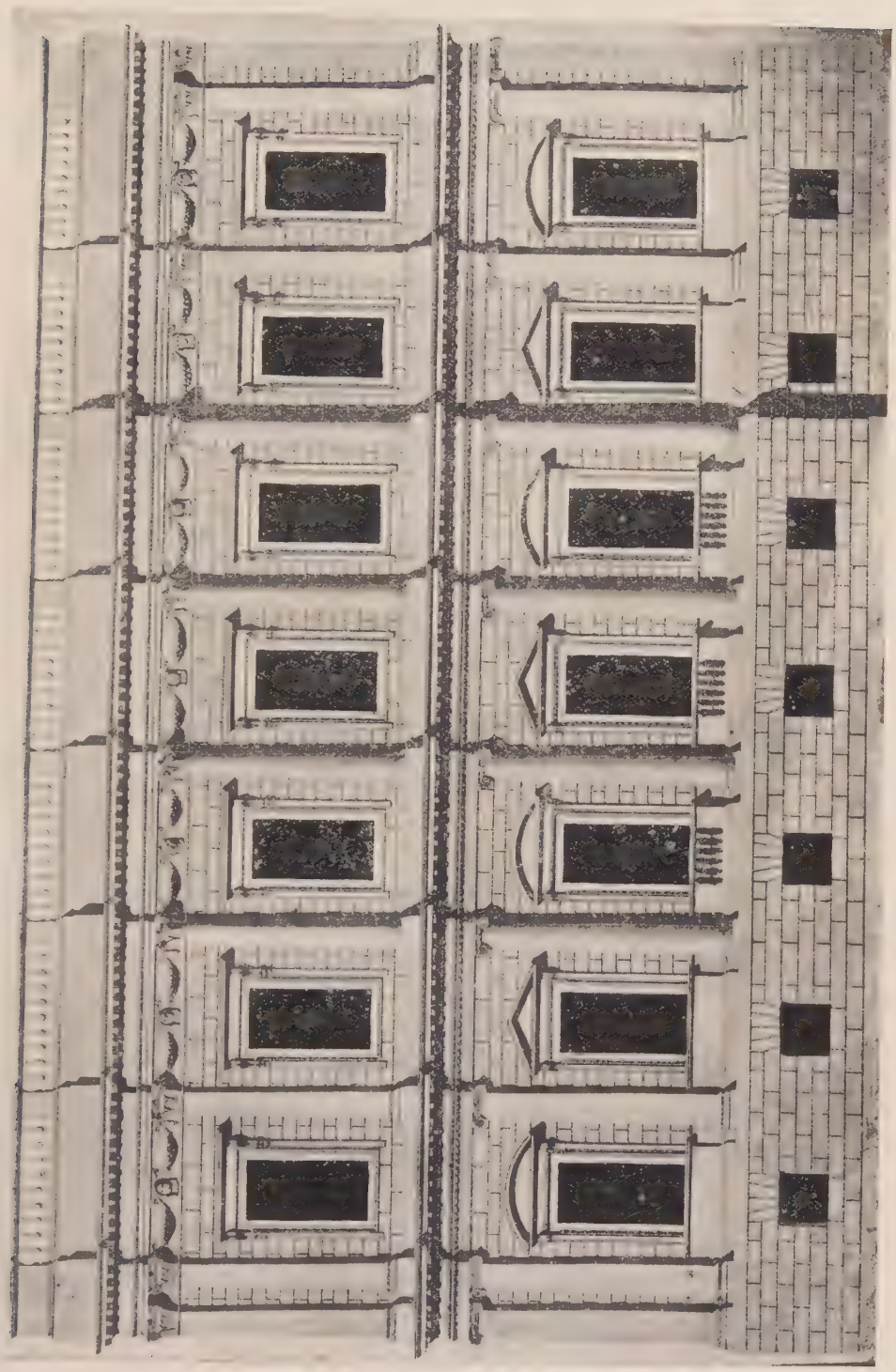
BRITISH COFFEE HOUSE

Cockspur Street. Robert Adam, Architect. 1770
Destroyed 1878

GREAT EATING ROOM

Wilton House. Wilts. 1649(?). *Inigo Jones, Architect.* 60 *by* 30 *by* 30

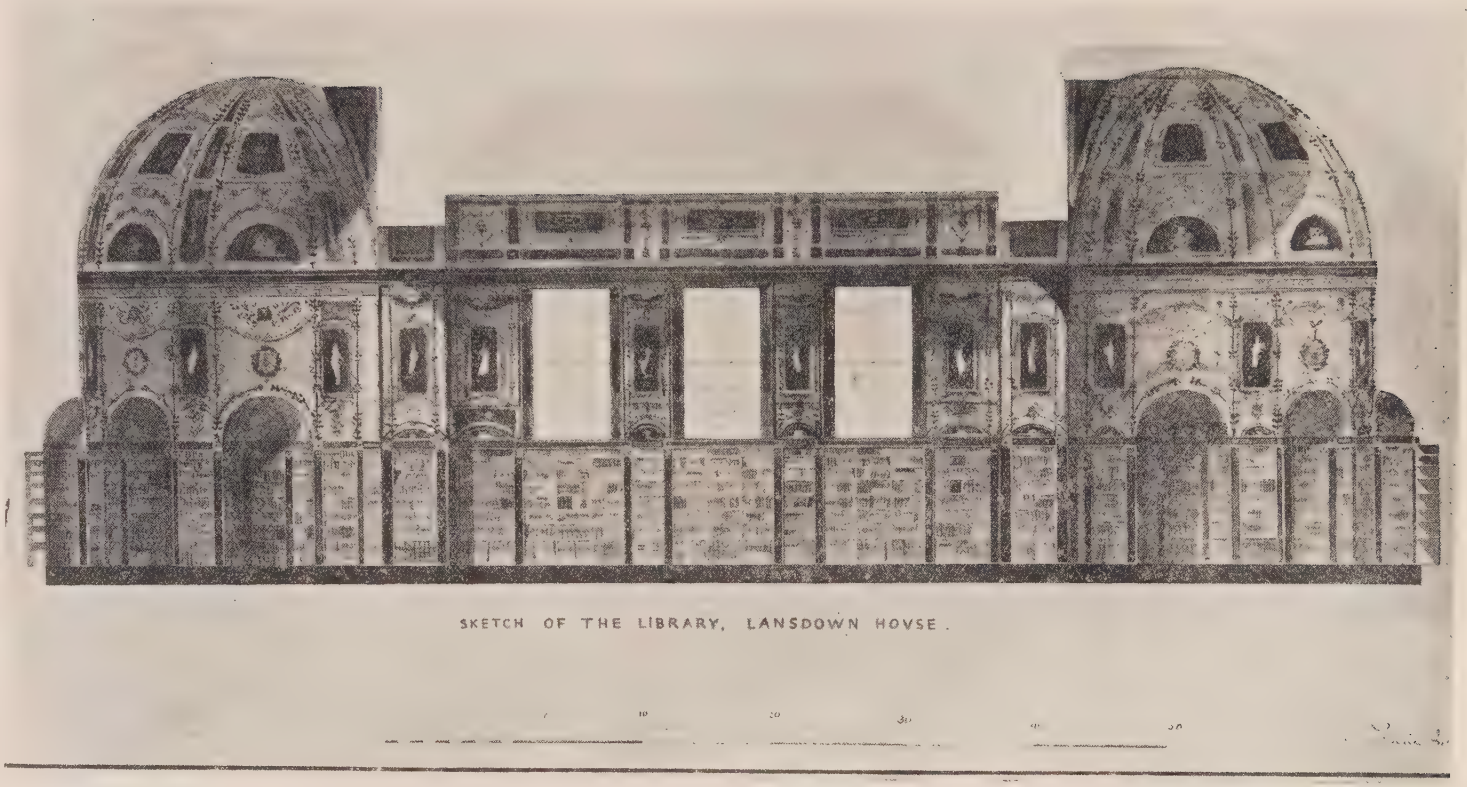
(*See plate* 73)



BANQUETING HOUSE

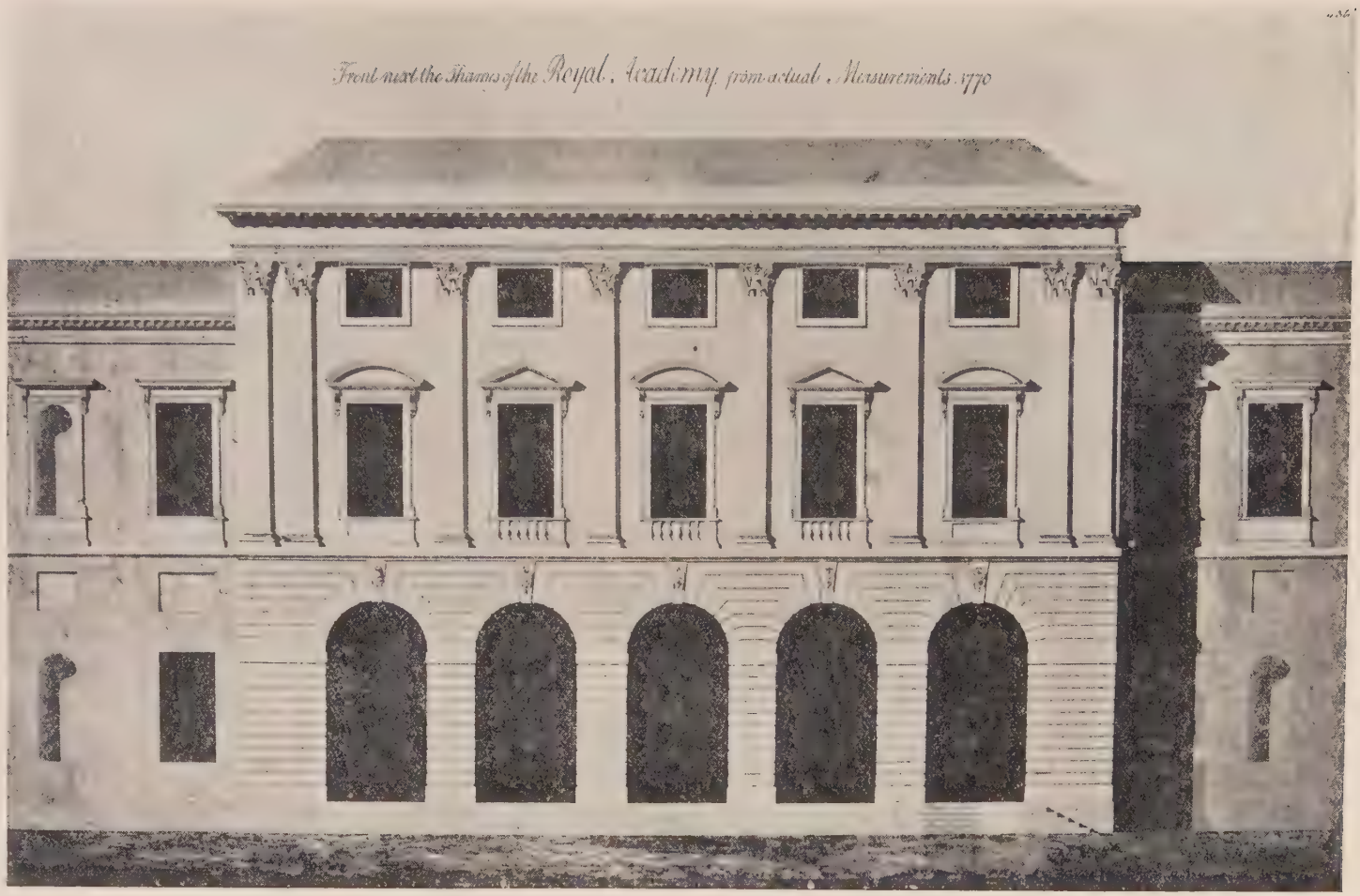
Whitehall. 1619. Inigo Jones, Architect

R.A. Silver Medal drawing by Sir John Soane, R.A., 1772



DESIGN BY GEORGE DANCE, R.A.

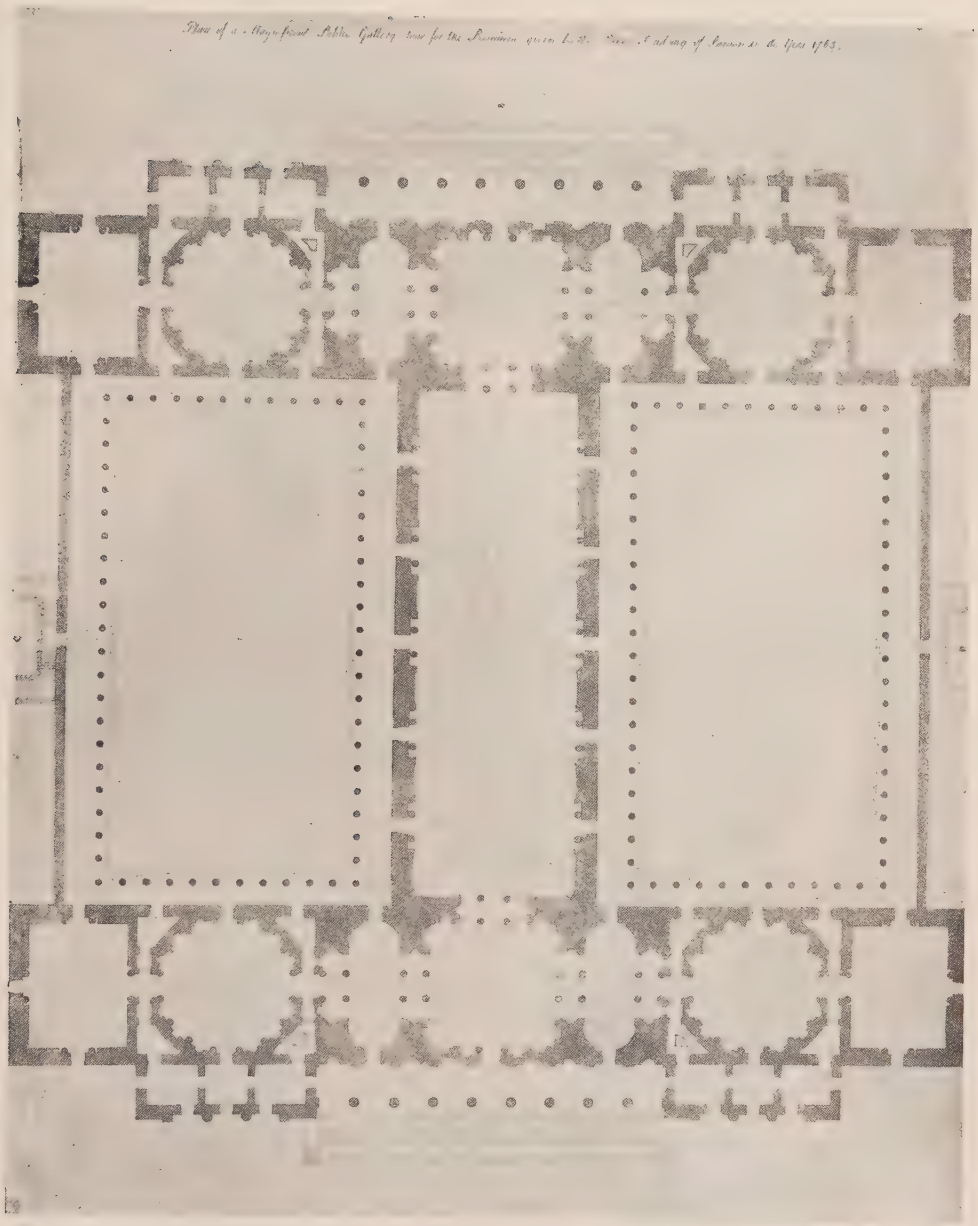
Great Gallery at Lansdowne House, Berkeley Square. 1794(?)



SOMERSET PALACE

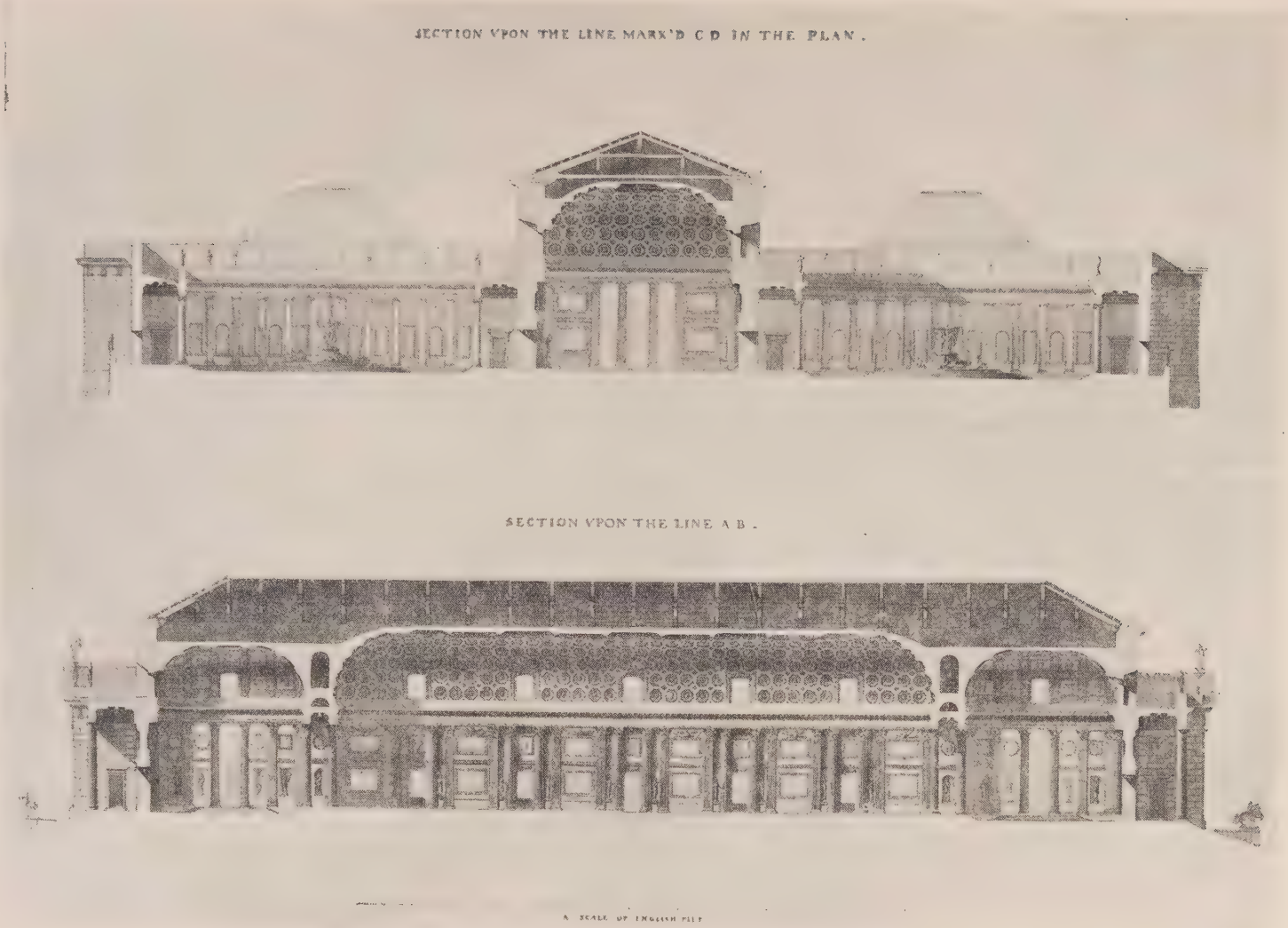
Strand. 1638. *Inigo Jones, Architect. Drawn by John Soane,* 1770

Destroyed 1776



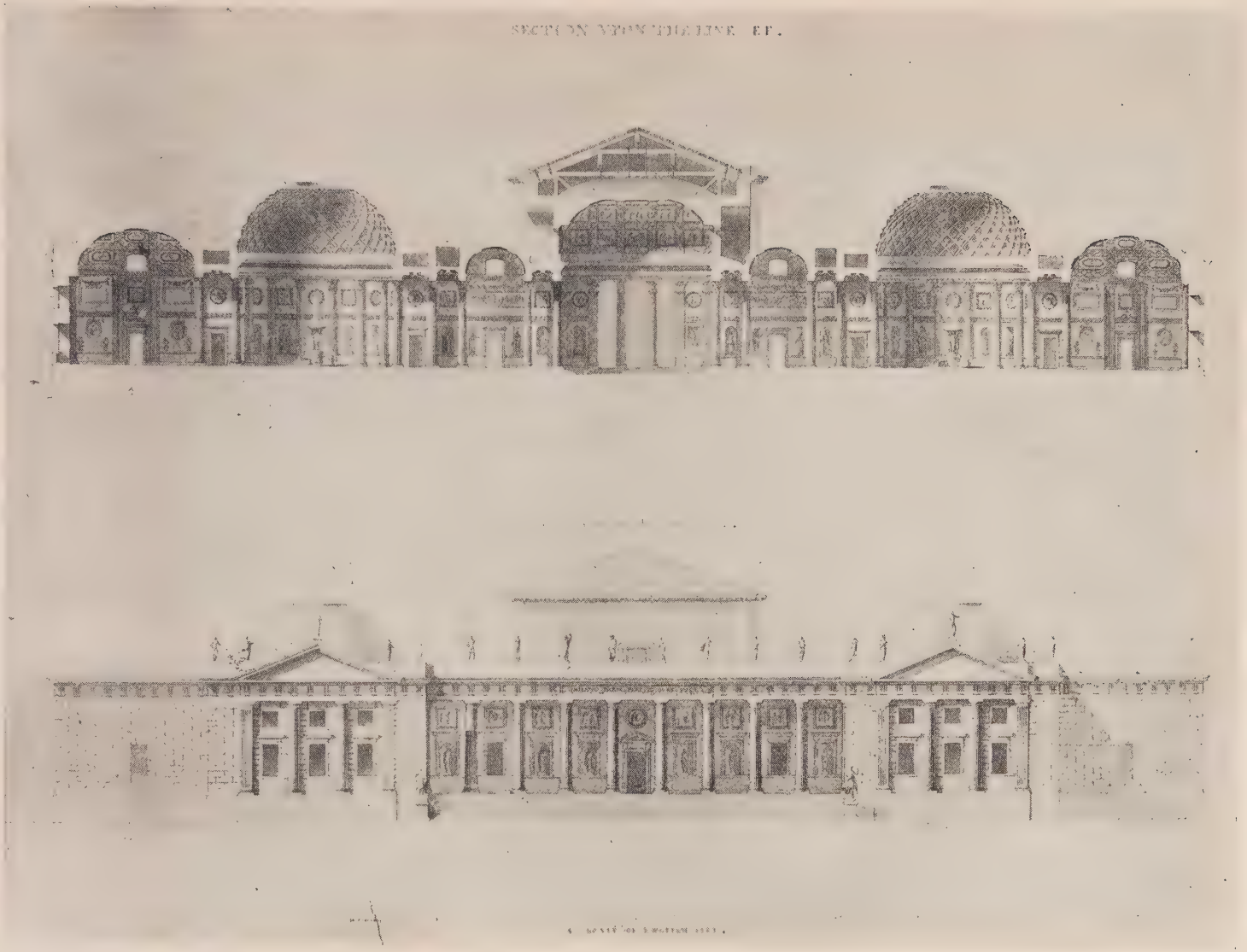
GEORGE DANCE, R.A.

Prize Design. Parma. 1763. *Plan*



GEORGE DANCE, R.A.

Prize Design. Parma. 1763. *Sections*



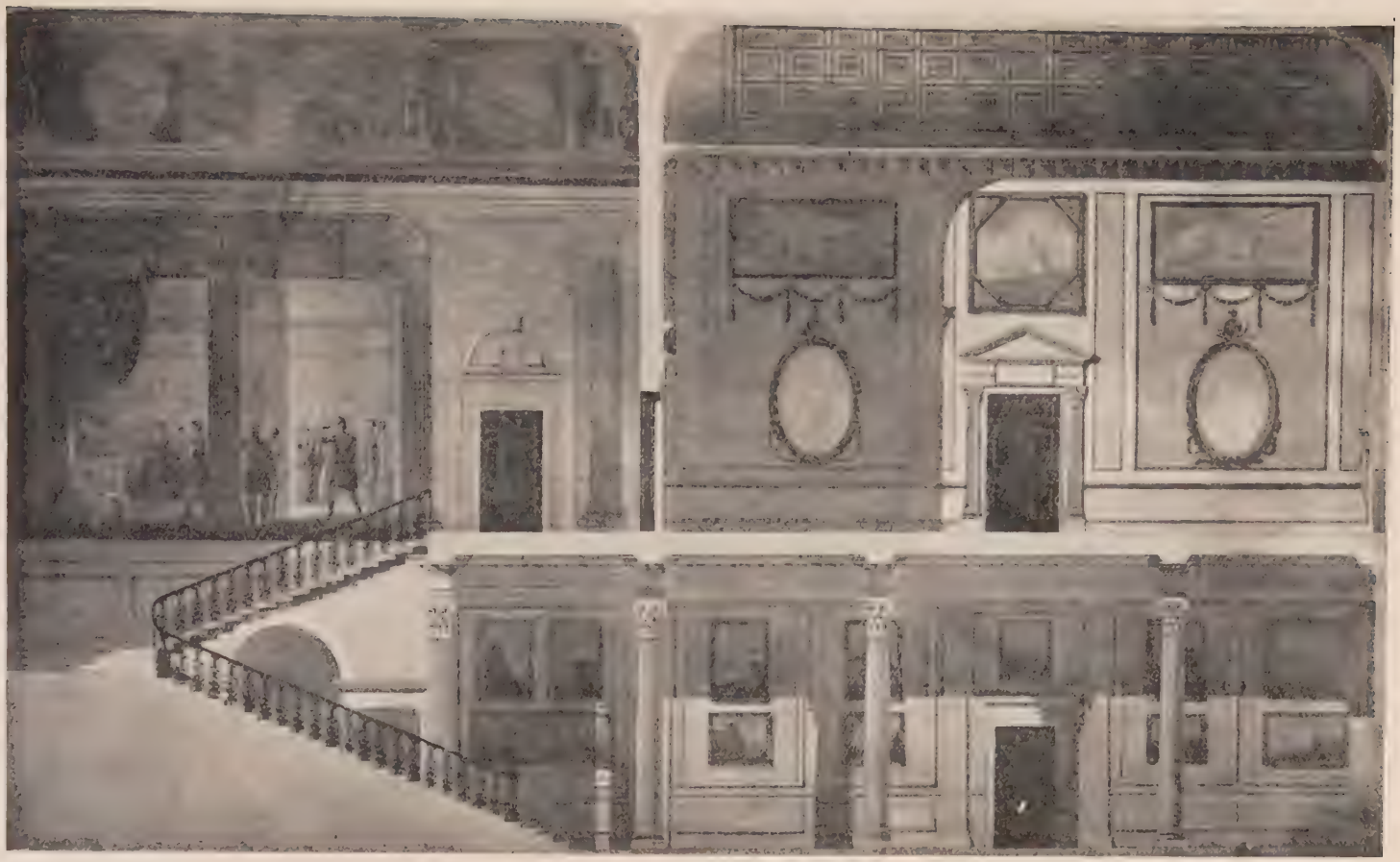
GEORGE DANCE, R.A.

Prize Design. Parma. 1763. *Elevation*

ASHBURNHAM HOUSE

Dean's Yard. Staircase by Inigo Jones

Drawn by G. Basevi



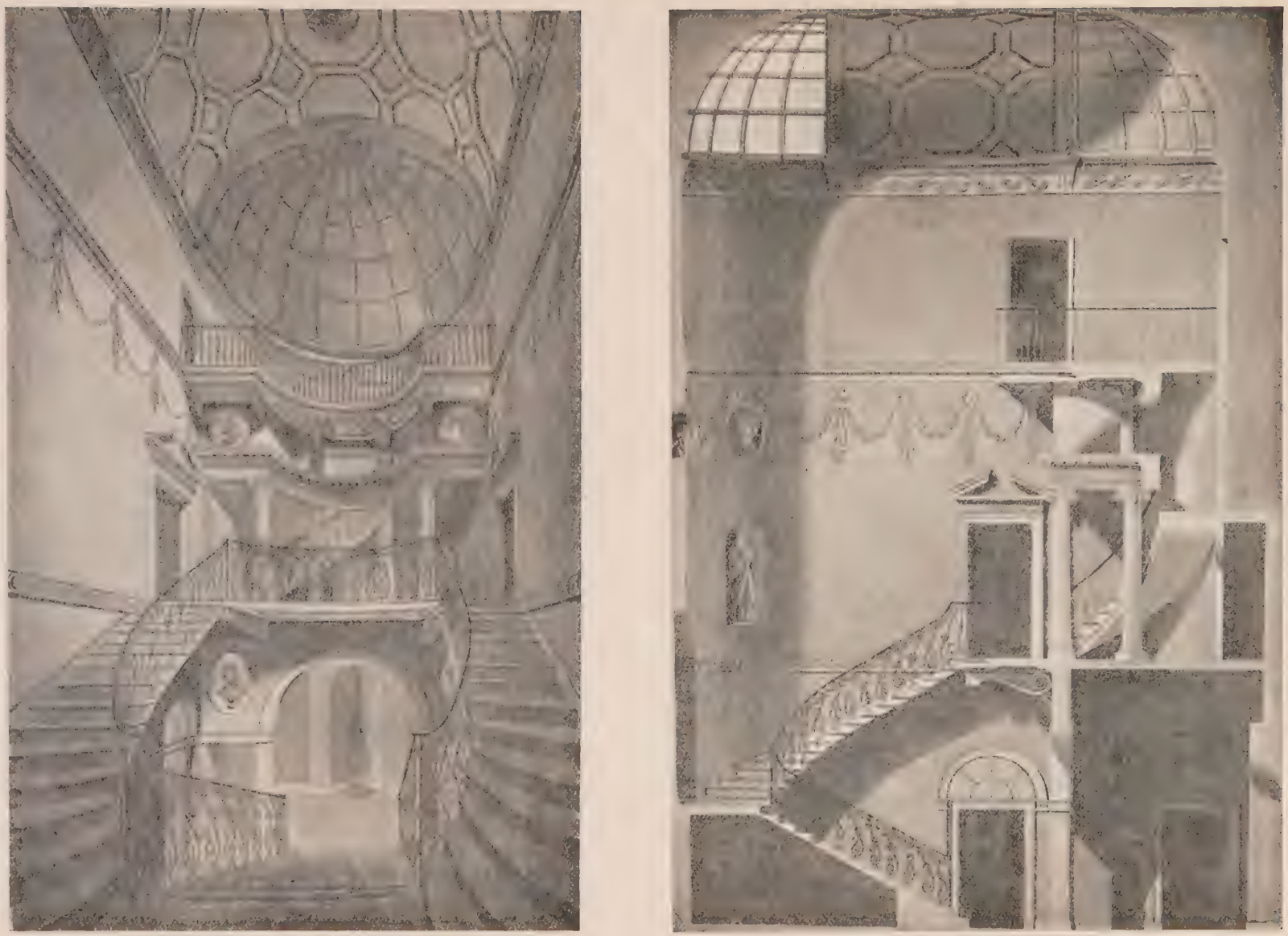
STAIRCASE

Queen's House Old Buckingham House St James' Park
(*Destroyed* 1827).

STAIRCASE

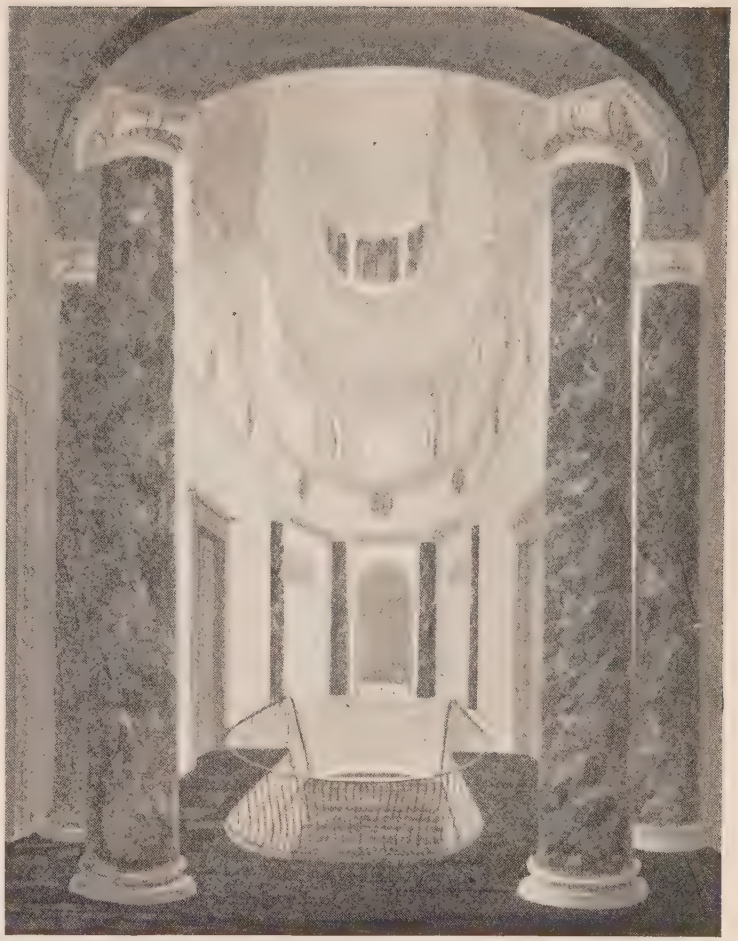
Queen's House. Cross Section

(*Destroyed* 1827).

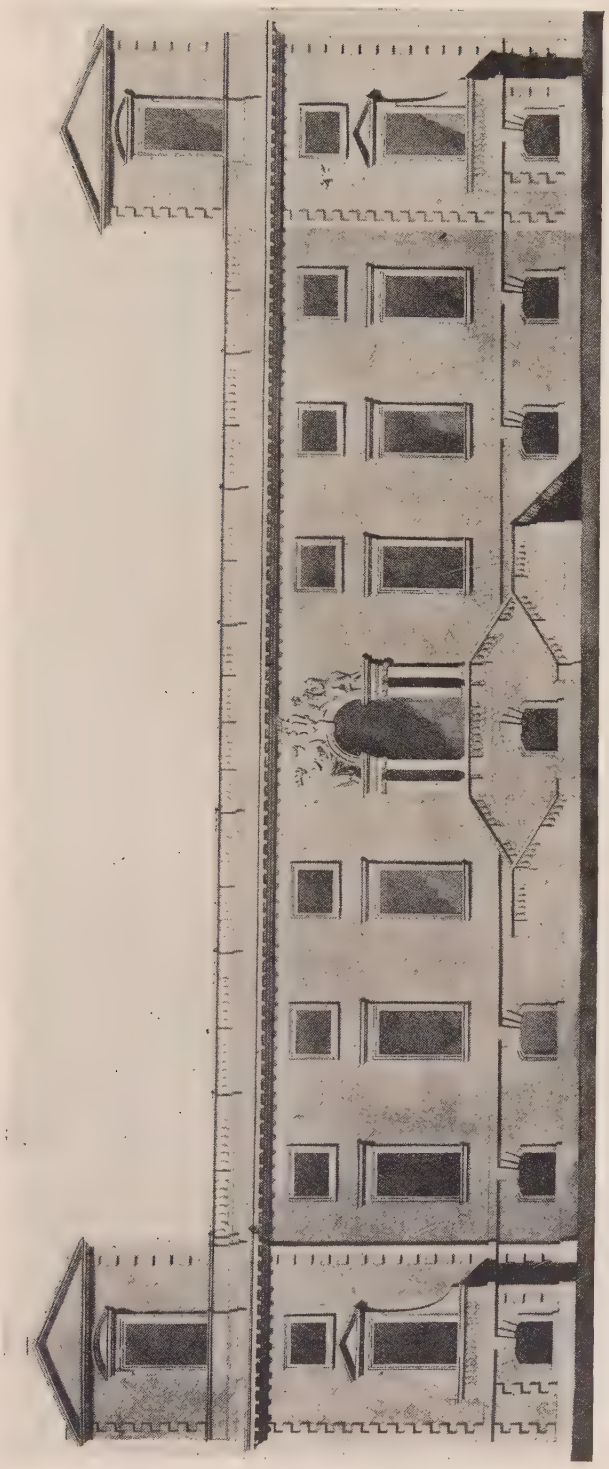


STAIRCASE
By Wm. Kent L. rd Clermont's House, Berkeley Square

STAIRCASE
Carrington House, Whitehall. Sir Wm. Chambers
Drawn by G. Basevi. (Destroyed).



STAIRCASE
Buckingham House, Pall Mall. Sir John Soane. 1794
Drawn by G. Basevi. (Destroyed).



WILTON HOUSE, WILTS.

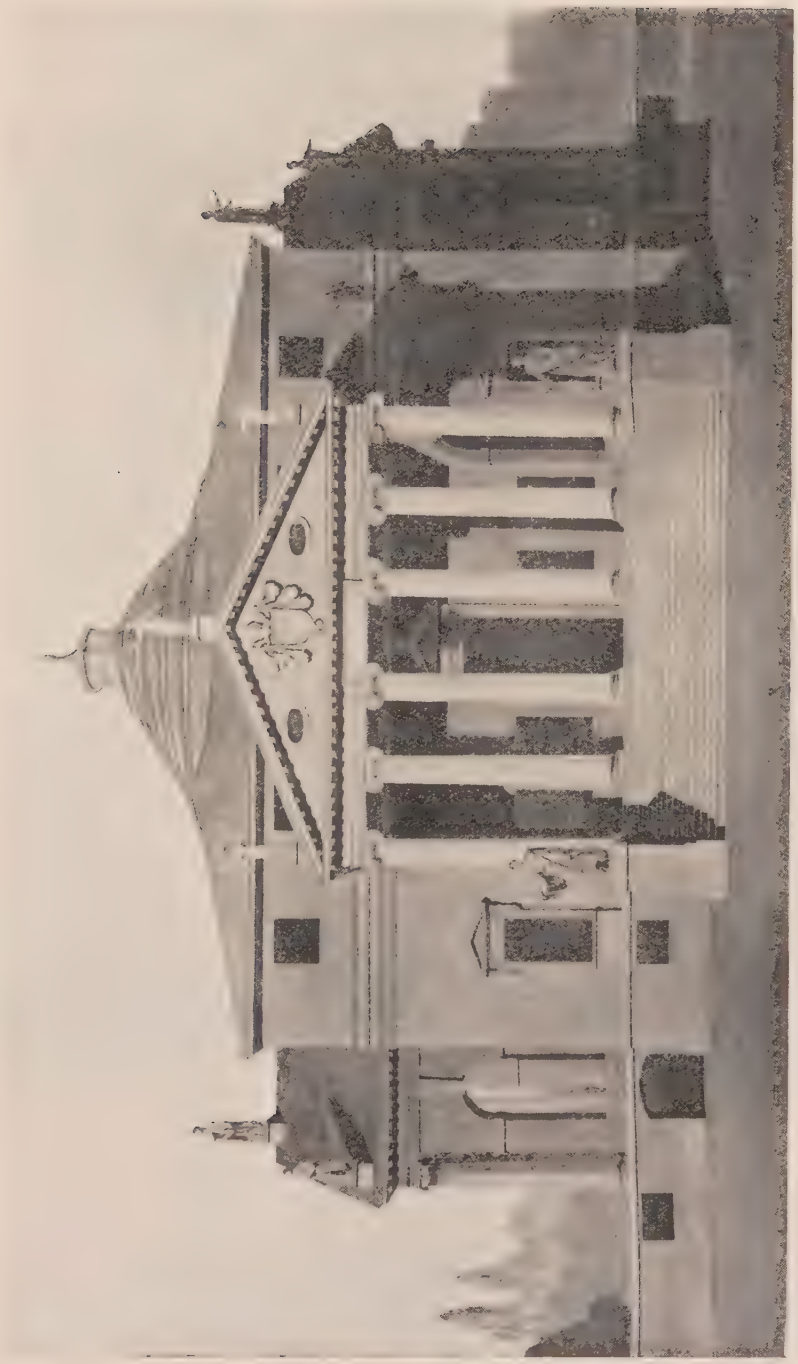
Garden Front. Inigo Jones, Architect

(*See plate* 61)

THIENE PALACE, VICENZA

Side Elevation. A. Palladio, Architect

CHERICATI PALACE, VICENZA
(now the Museum). A. Palladio, Architect



VILLA CAPRA (ROTUNDA), VICENZA

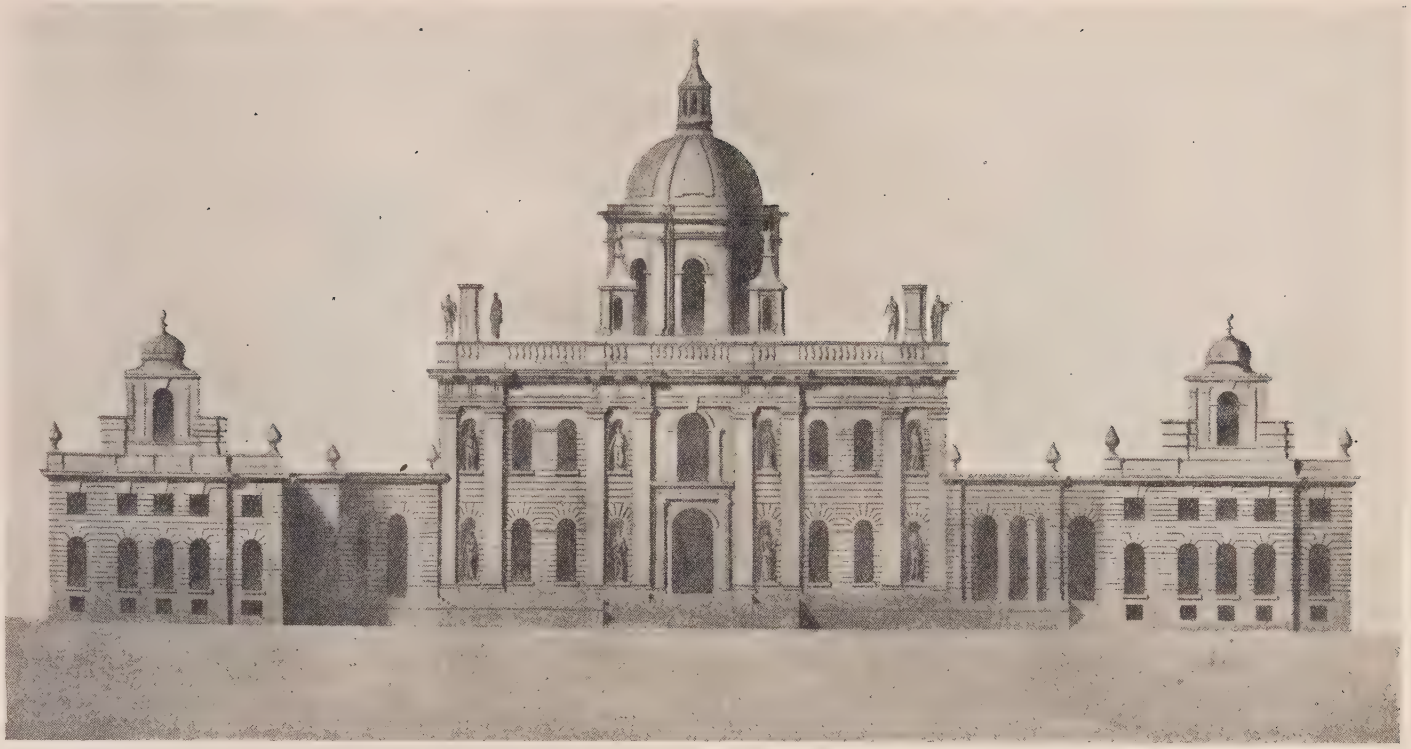
A. Palladio, Architect

STREET FACADE, PARIS

Showing Mezzanine. Drawn by H. Parke in 1819

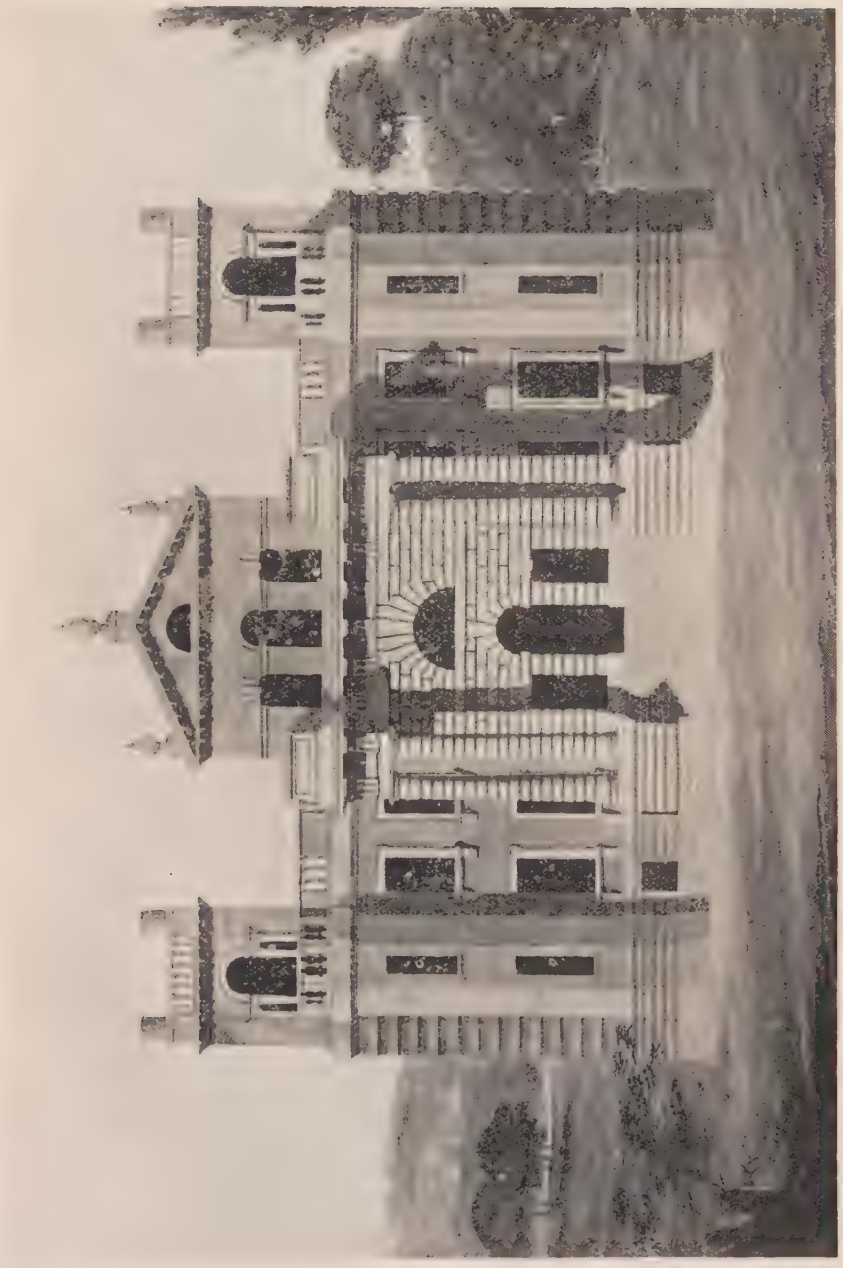
BLENHEIM CASTLE, OXFORD

Entrance Front. Sir John Vanbrugh. 1704



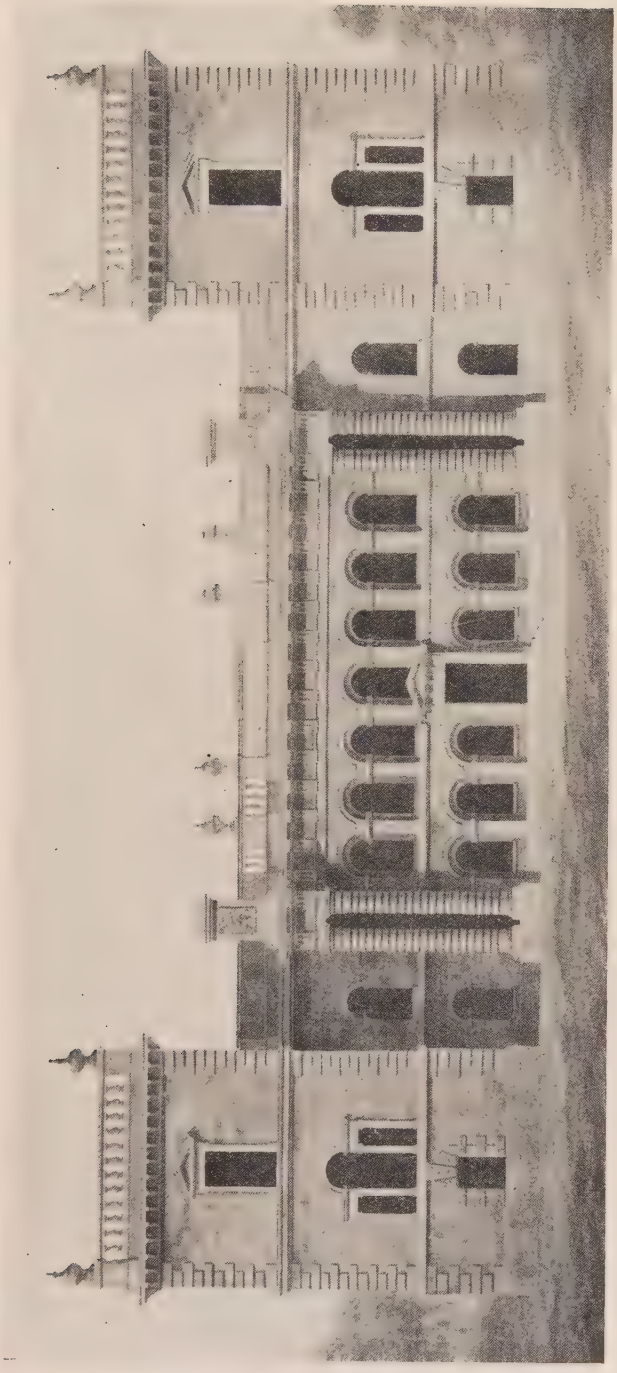
CASTLE HOWARD, YORKS

Entrance Front. Sir John Vanbrugh. 1699



SEATON DELAVAL, NORTHUMBERLAND

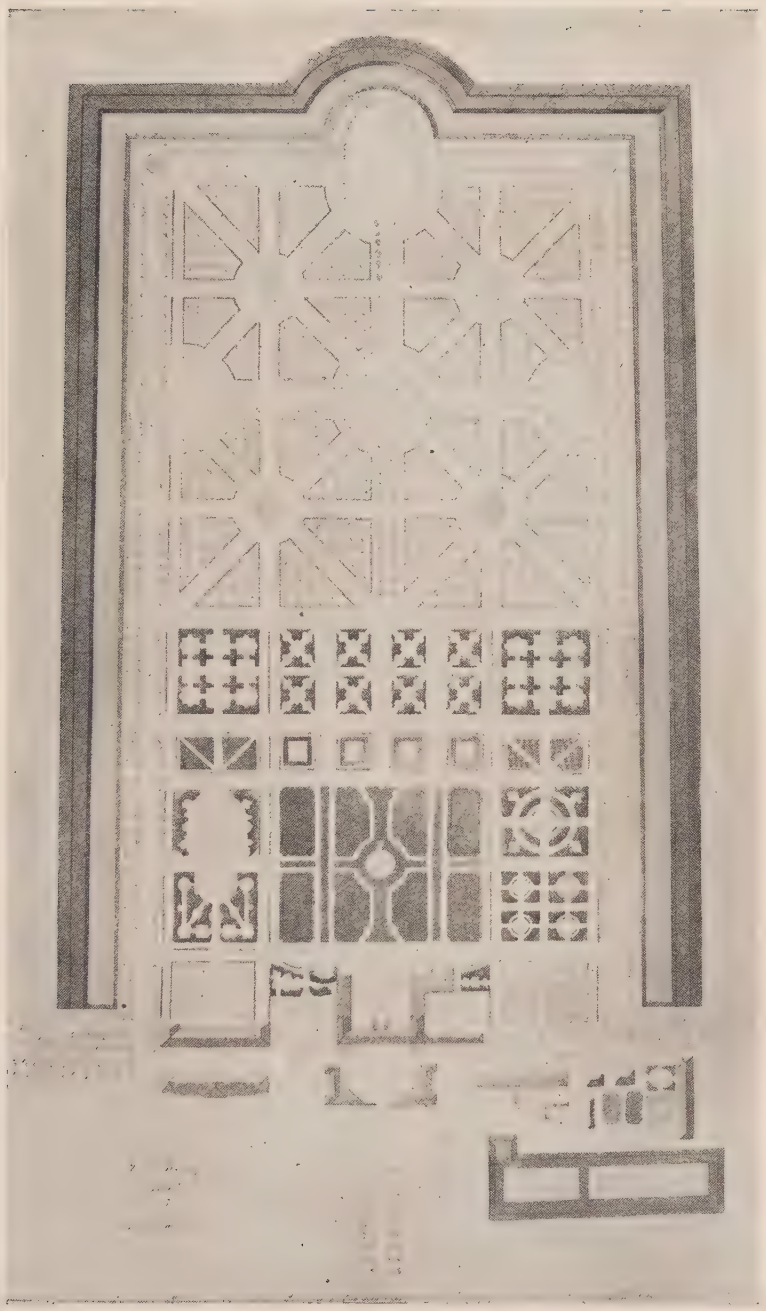
Entrance Front. Sir John Vanbrugh



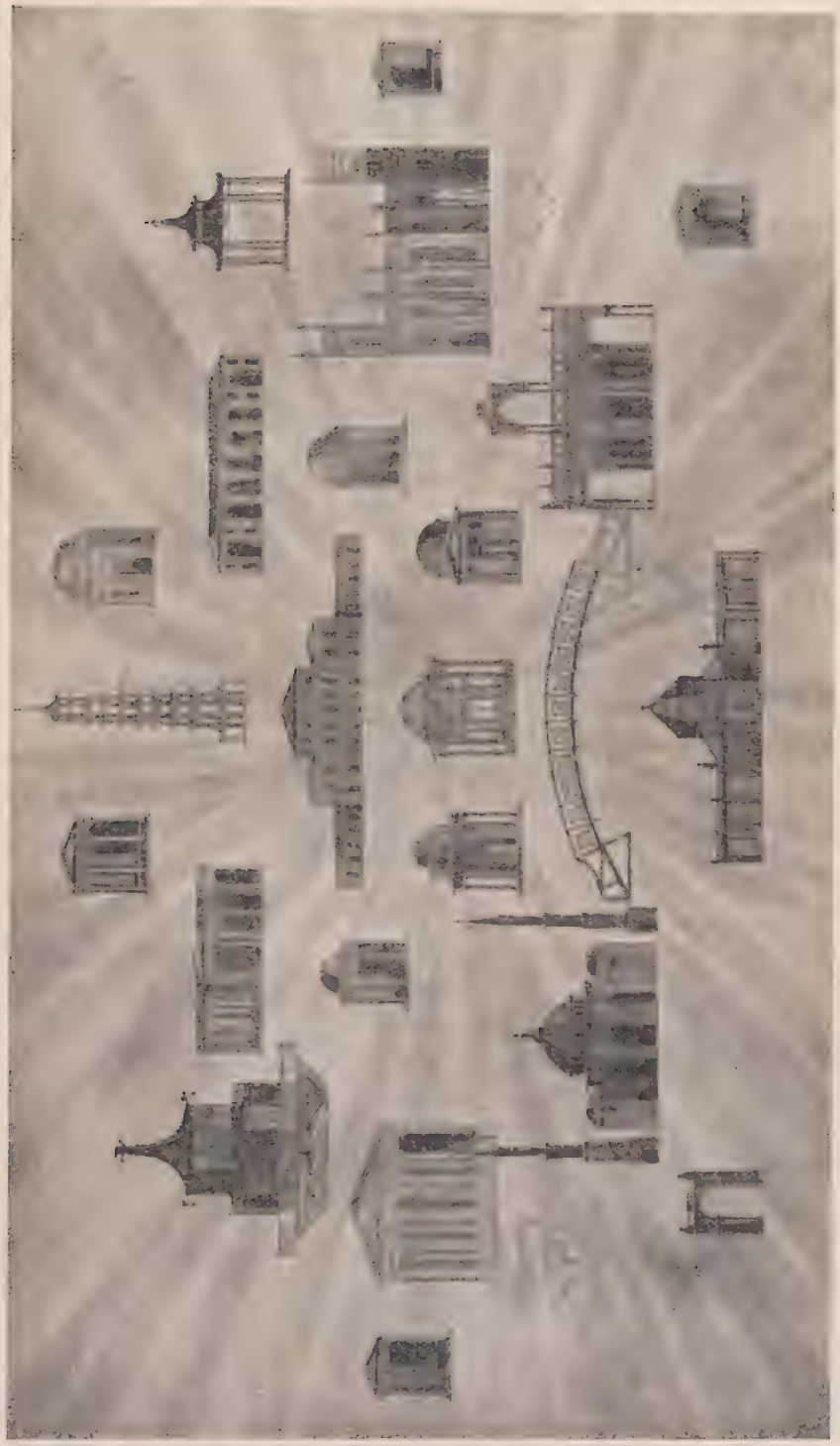
GRIMTHORPE, LINCOLNSHIRE
Entrance Front. Sir John Vanbrugh

LAURENTINUM

Pliny's Villa. Restored by Edward Stevens



GARDEN AT HERRENHAUSEN NEAR HANOVER

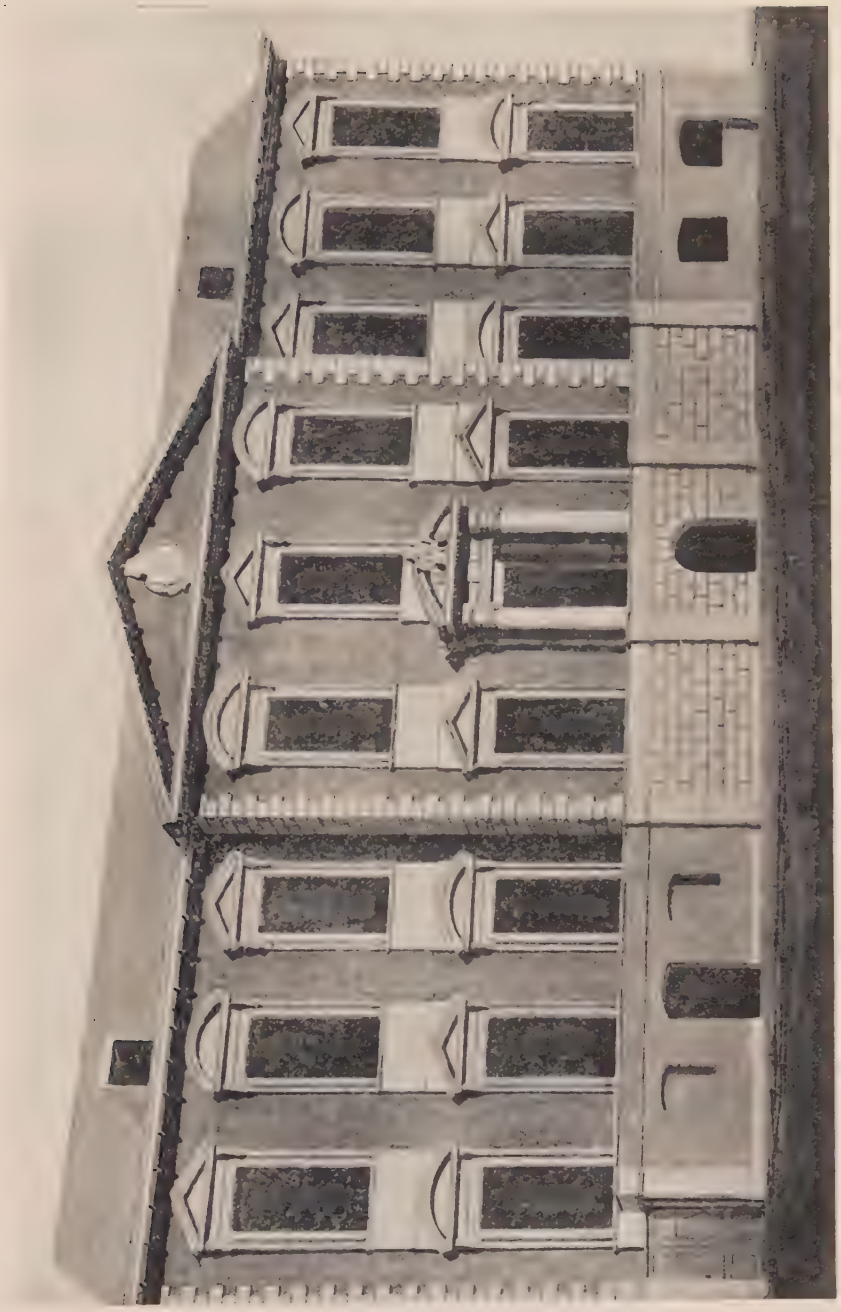


BUILDINGS AT KEW GARDENS
Sir Wm. Chambers, R.A. (Mostly destroyed).

FARNESE GARDENS ON THE PALATINE, ROME
(Destroyed)

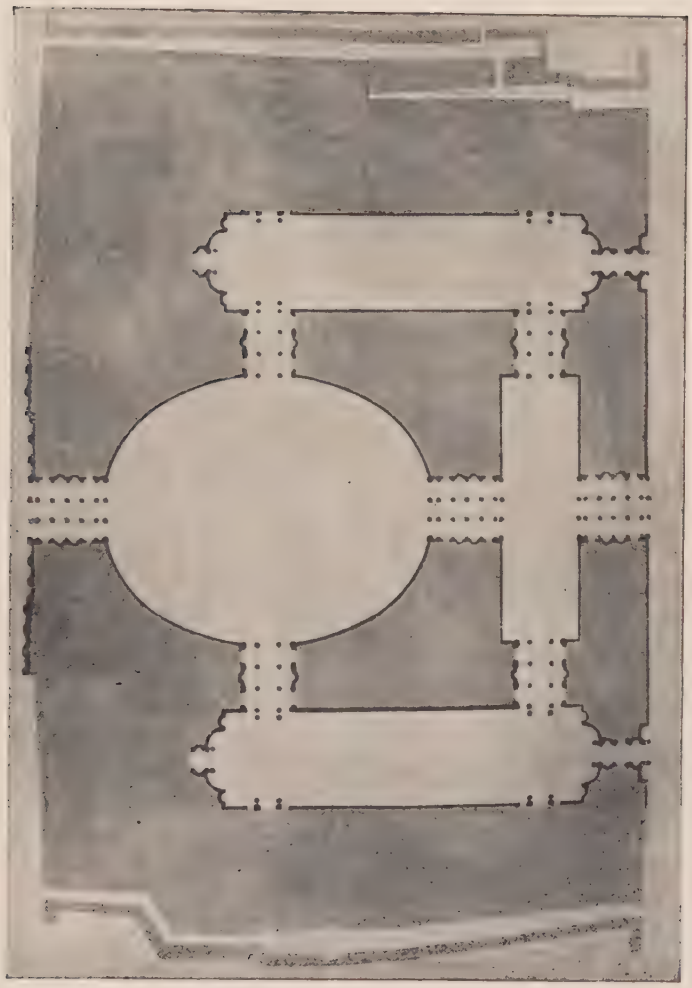
COLLEGE OF PHYSICIANS, WARWICK LANE
Sir Chr. Wren, Architect. (1674-89). (*Destroyed* 1866).

COLLEGE OF PHYSICIANS, WARWICK LANE
Interior of Quadrangle. (*Destroyed* 1879).



FISHMONGER'S HALL, LONDON BRIDGE
(*Destroyed* 1830)

THE CIRCUS AT BATH COMPARED WITH THE COLOSSEUM AT ROME



SOMERSET HOUSE

First Plan. Sir Wm. Chambers, R.A.

SOMERSET HOUSE

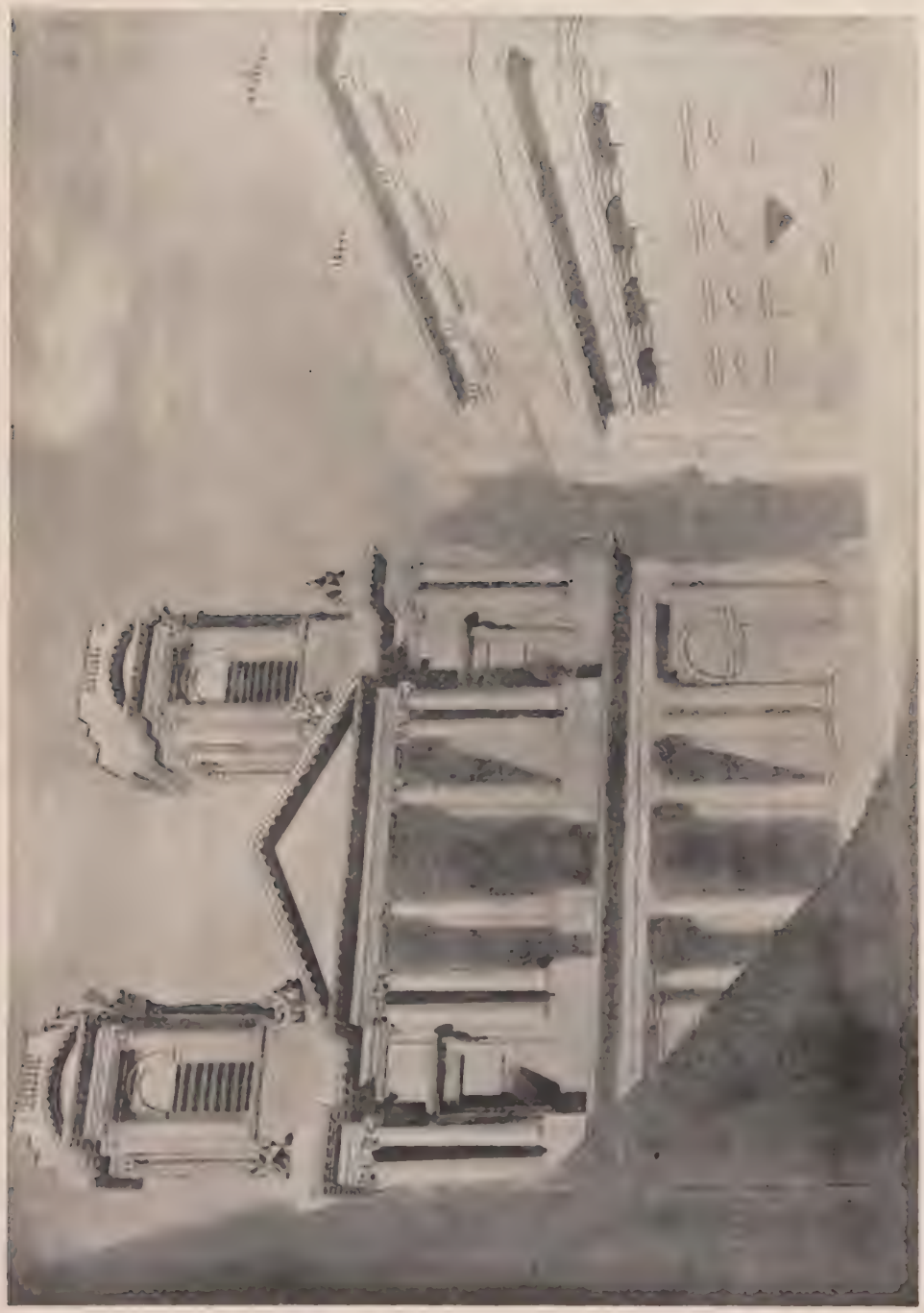
Strand Front Sir Wm. Chambers, R.A. (1776-80)

SOMERSET HOUSE
Interior of Quadrangle

"SURGEONS THEATRE," PARIS
Gondoin, Architect 1774

ST PAUL'S CATHEDRAL

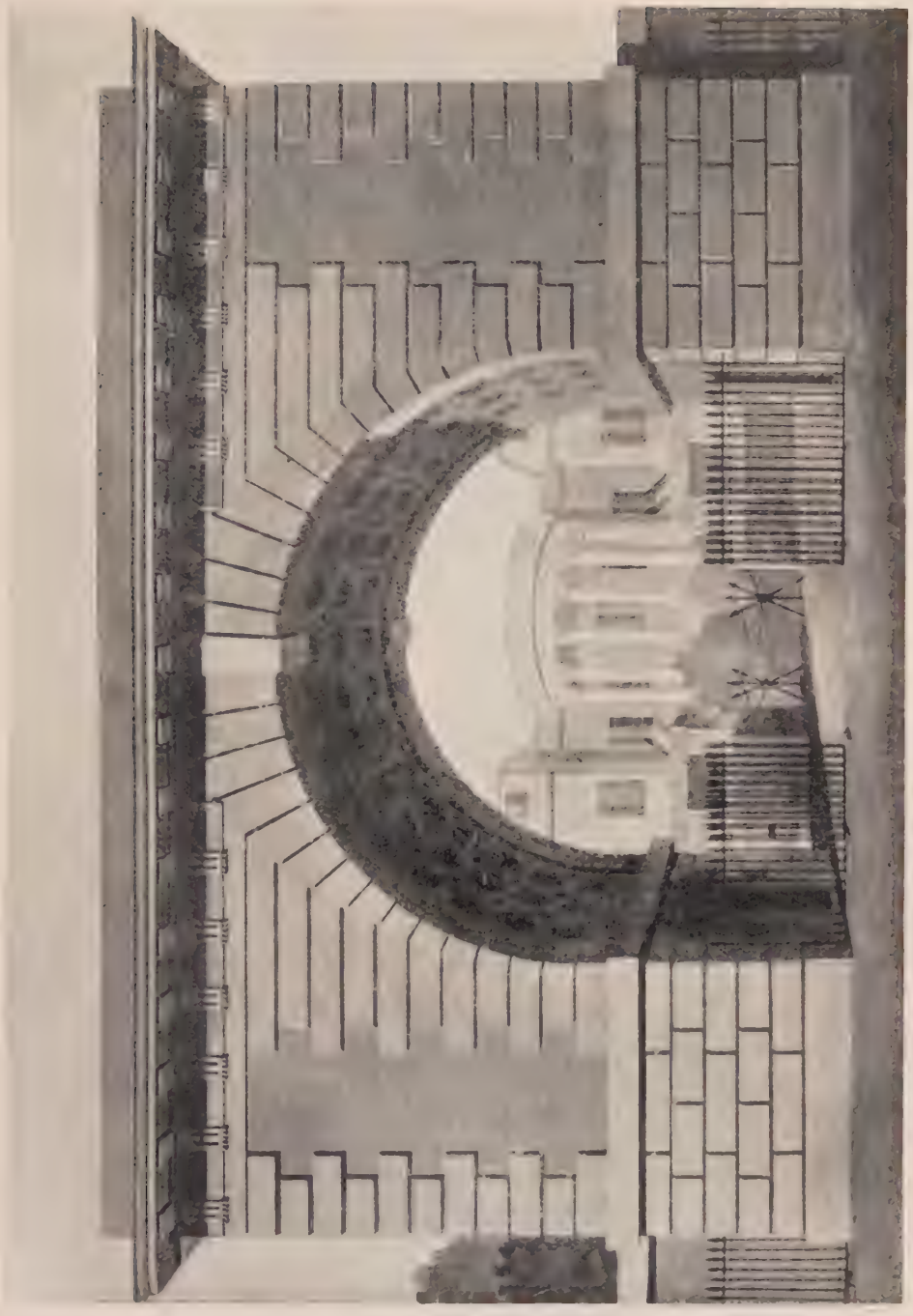
Measured Drawing by John Soan



ST ROCHE, RUE ST. HONORÉ, PARIS

Drawn in 1819 *by Henry Parke*

BERNINI'S DESIGN FOR THE LOUVRE, PARIS, 1665



PALAIS LEGION DE HONNEUR, PARIS
Drawn by H. Parke in 1819

HOTEL DE CONDE, PARIS

Drawn by H. Parke in 1819

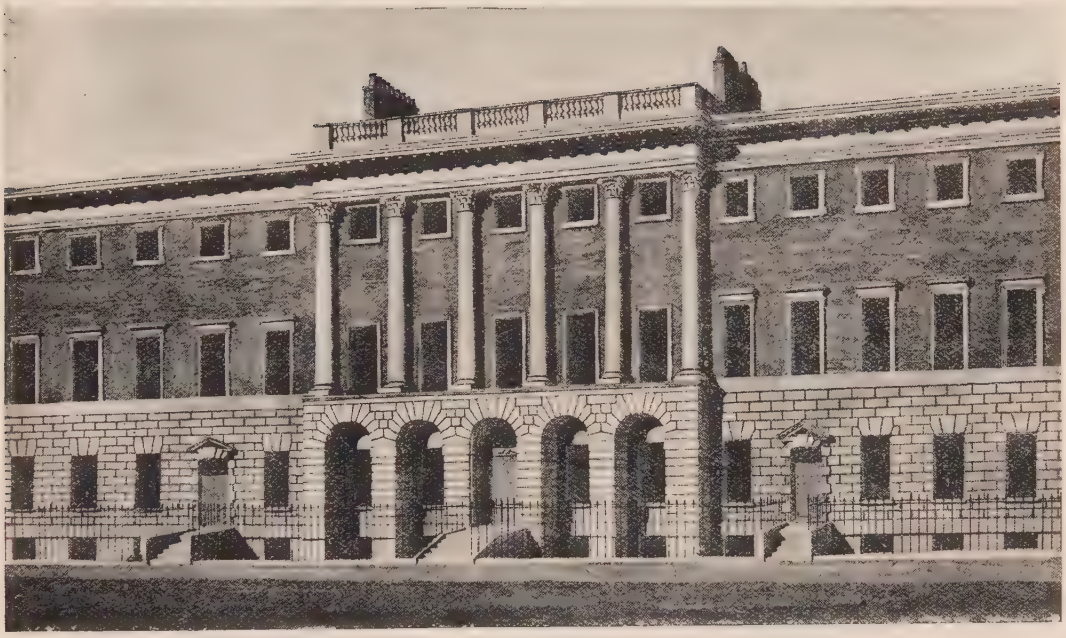
PERE LA CHAISE CIMITIERE, PARIS

Drawn by H. Parke in 1819

BASIN CANAL D'OURC, PARIS
Drawn by H. Parke in 1819

FULL SIZE CAST OF THE TIVOLI TEMPLE ORDER
IN SIR JOHN SOANE'S MUSEUM

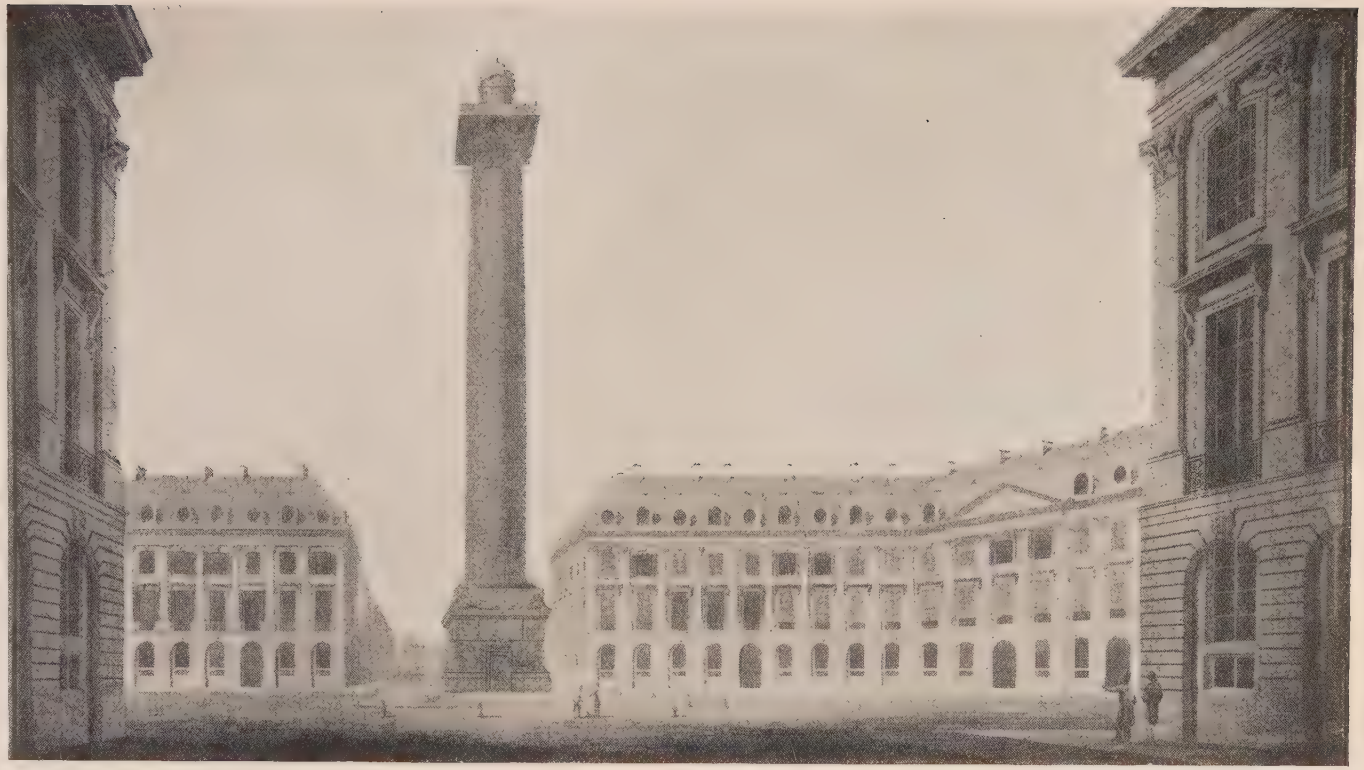
HOUSE OF SIR JOHN VANBRUGH, WHITEHALL. 1699.
(Destroyed)



HOUSES IN GROSVENOR SQUARE
R. & J. ADAM, 1763(?)

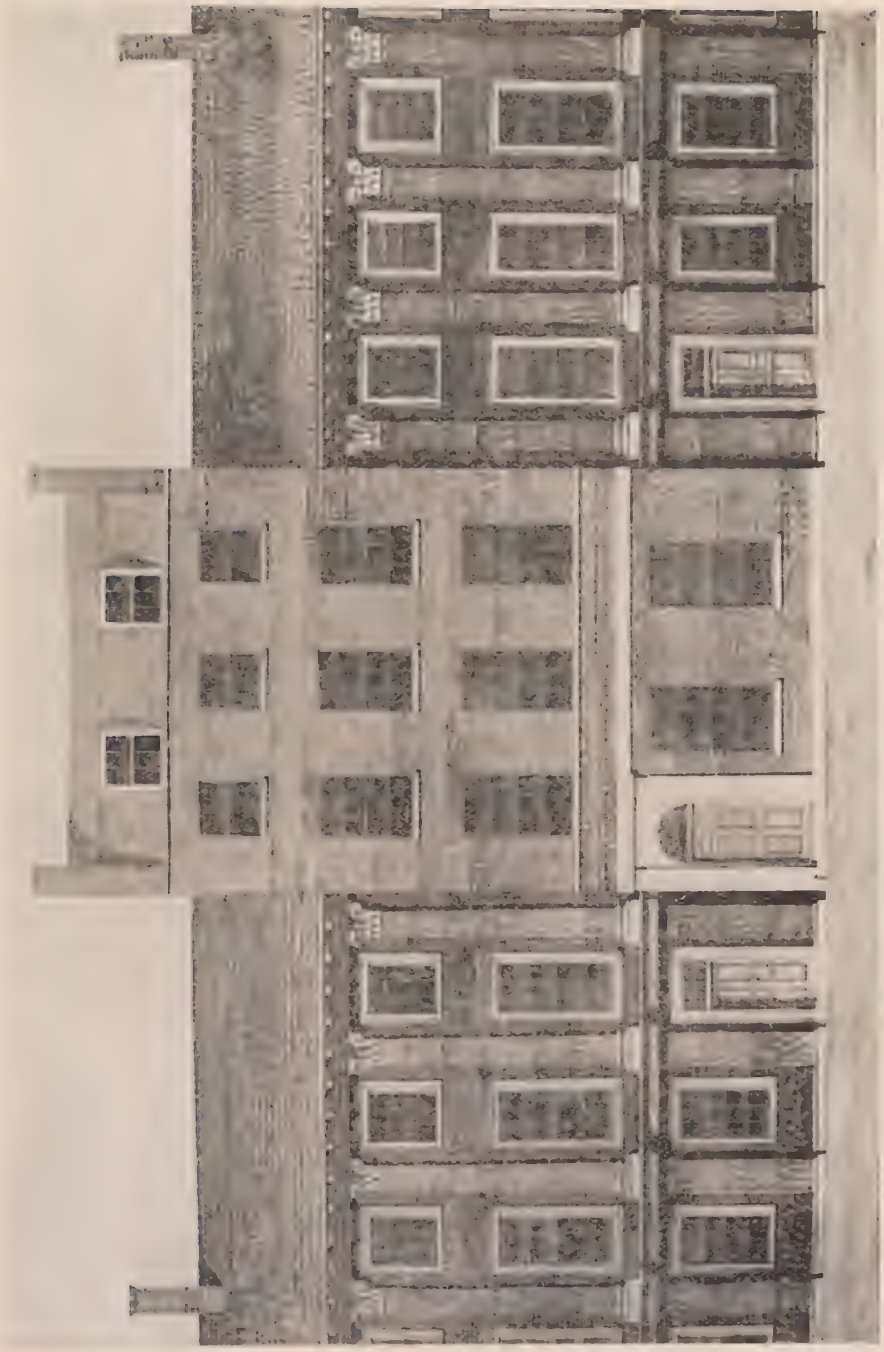
INTERIOR ST. MARTIN'S IN THE FIELDS

James Gibbs, Architect



PLACE VENDOME, PARIS

J. H. Mansart after 1687. *Drawn by H. Parke in* 1819



HOUSES IN GREAT QUEEN STREET, HOLBORN
Attributed to John Webb, Architect (Destroyed)

20 *ST JAMES SQUARE*
Robert Adam, Architect. 1772

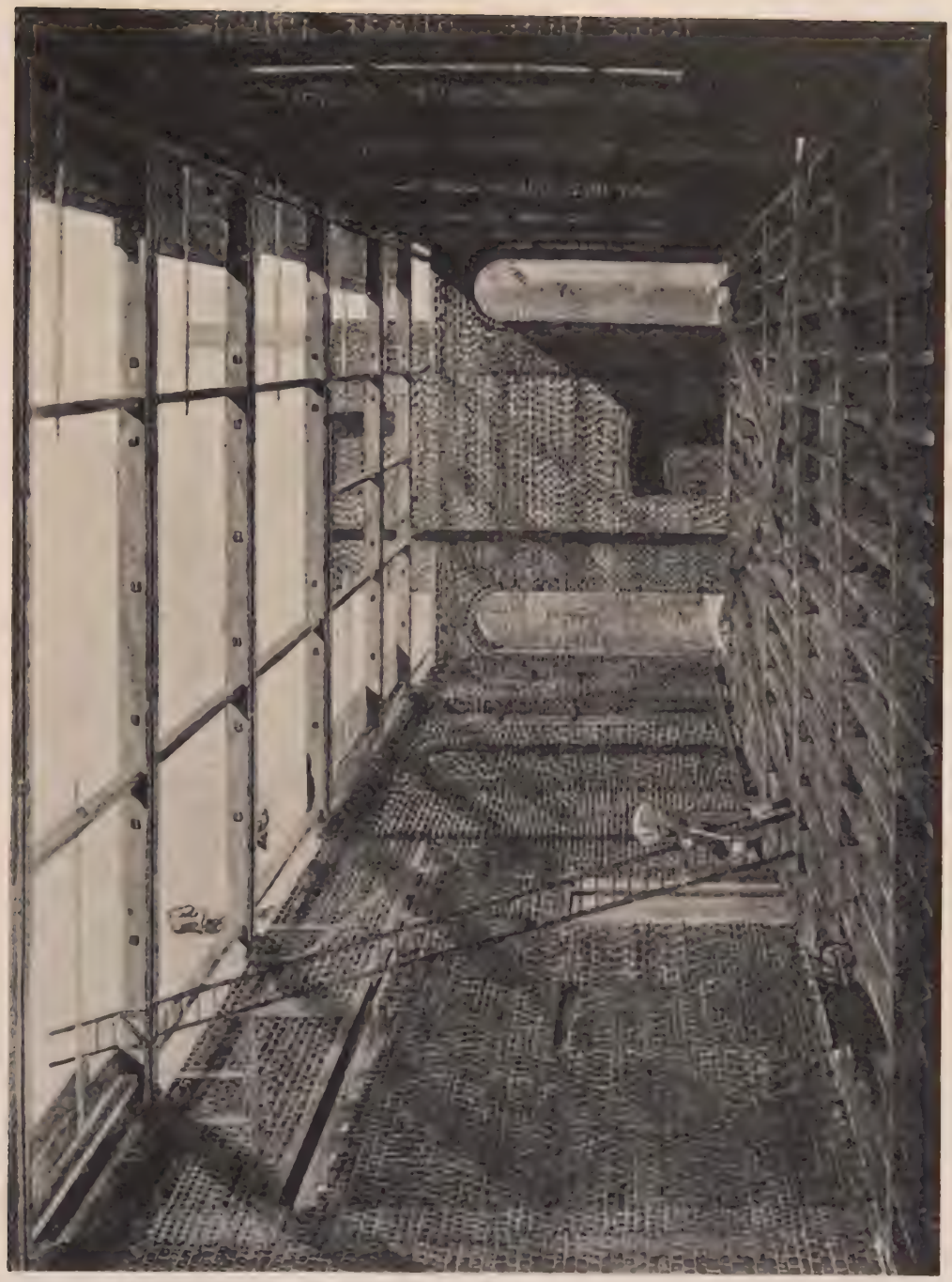
COMPARATIVE DRAWING

St. Peter's, Pantheon, Radcliffe, and Rotunda of the Bank

BERNINI TOWER, WEST END

St. Peter's, Rome. (Destroyed)

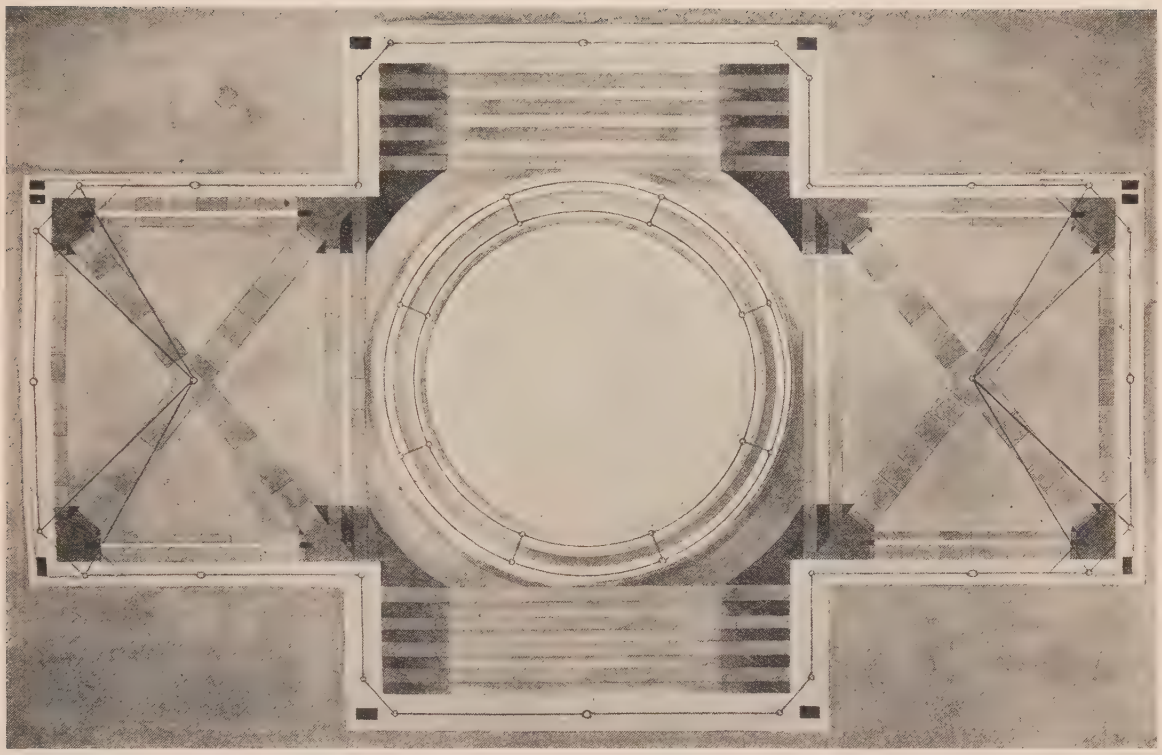
CONSTRUCTIONAL DRAWING. DULWICH ART GALLERY.
Sir John Soane, R.A. 1812



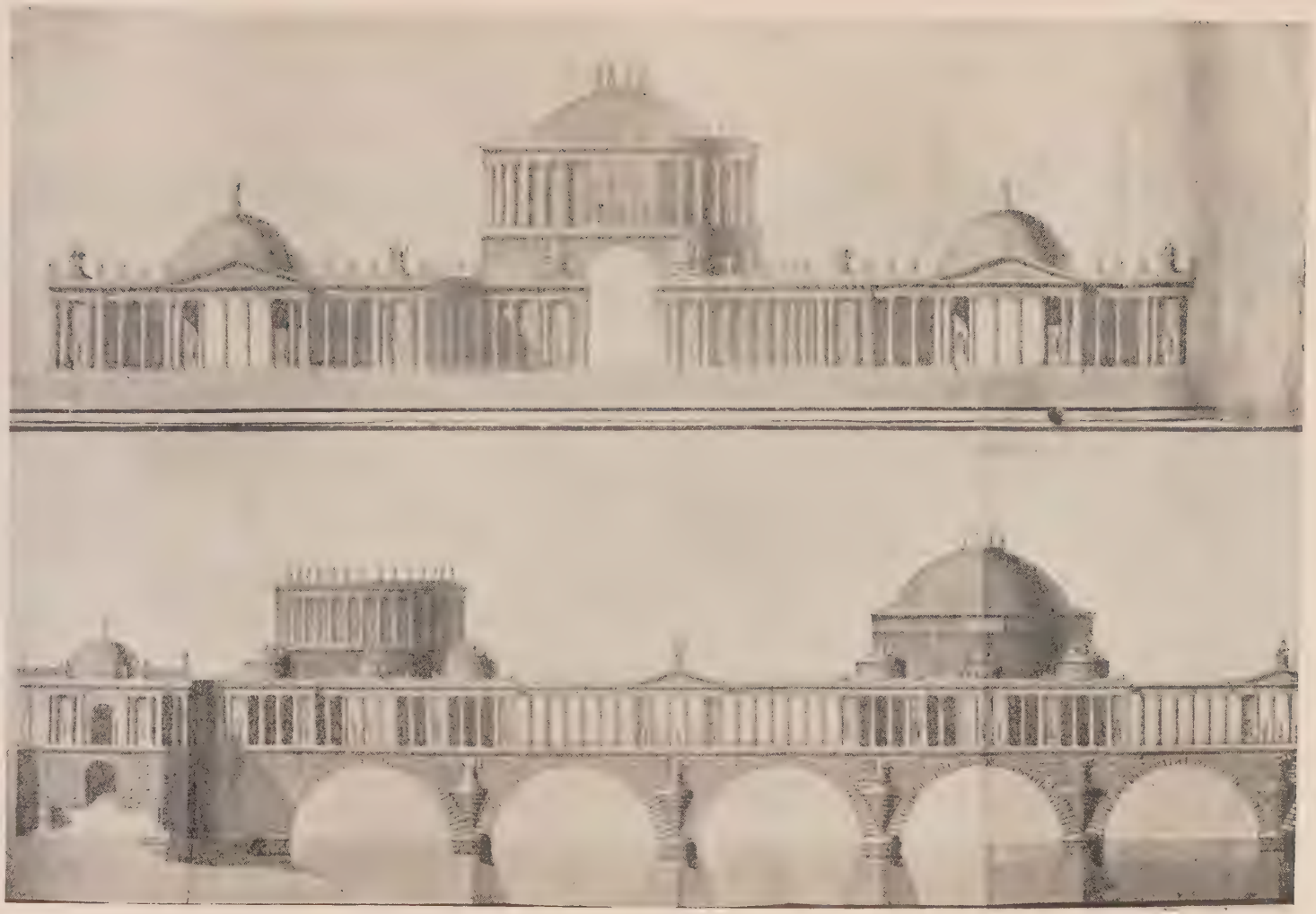
CONSTRUCTIONAL DRAWING, CHELSEA INFIRMARY
Sir John Soane, R.A. 1815

CONSTRUCTIONAL DRAWING. CONSOLS OFFICE BANK

Sir John Soane, R.A., Architect 1818–23



CONSTRUCTIONAL DRAWING. CONSOLS OFFICE
Plan of Vaulting. Sir John Soane, R.A., Architect. 1818-23



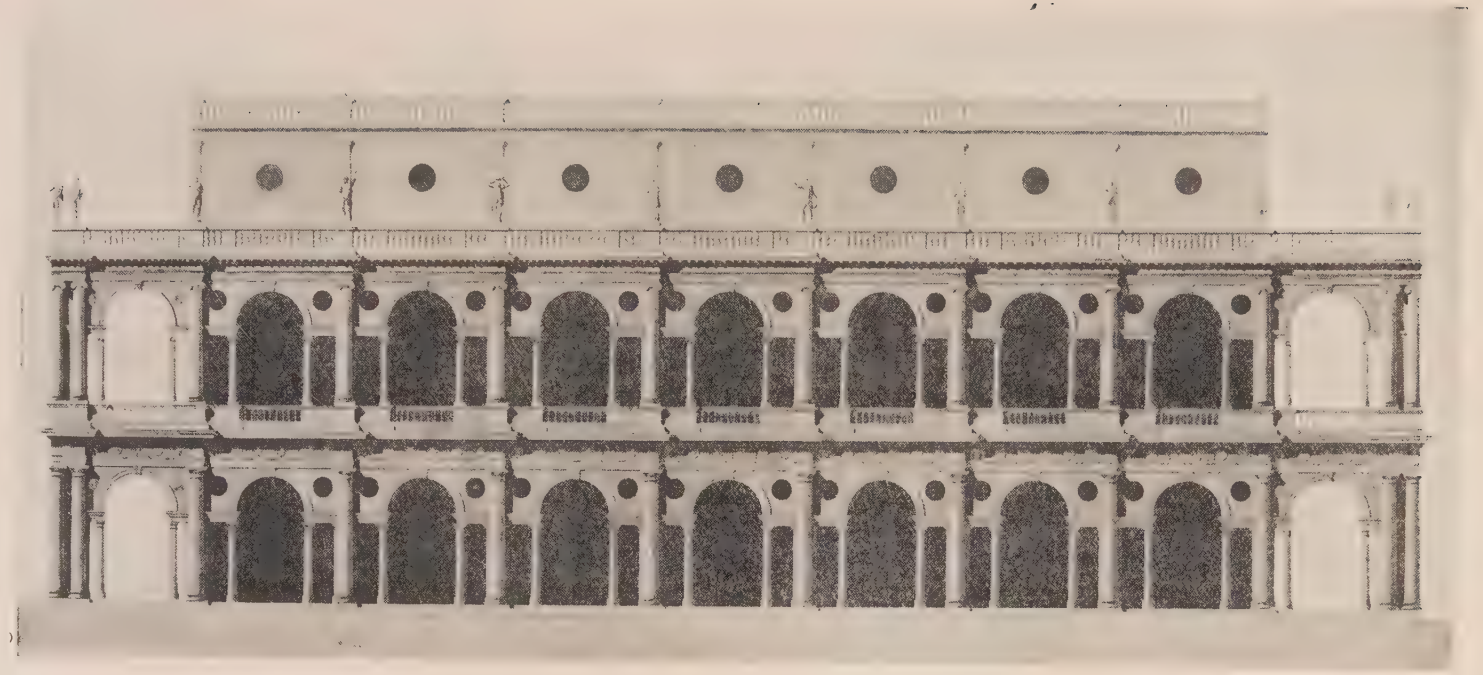
TRIUMPHAL BRIDGE

R.A. Gold Medal, 1776. *Original Prize Drawing by J. Soan*

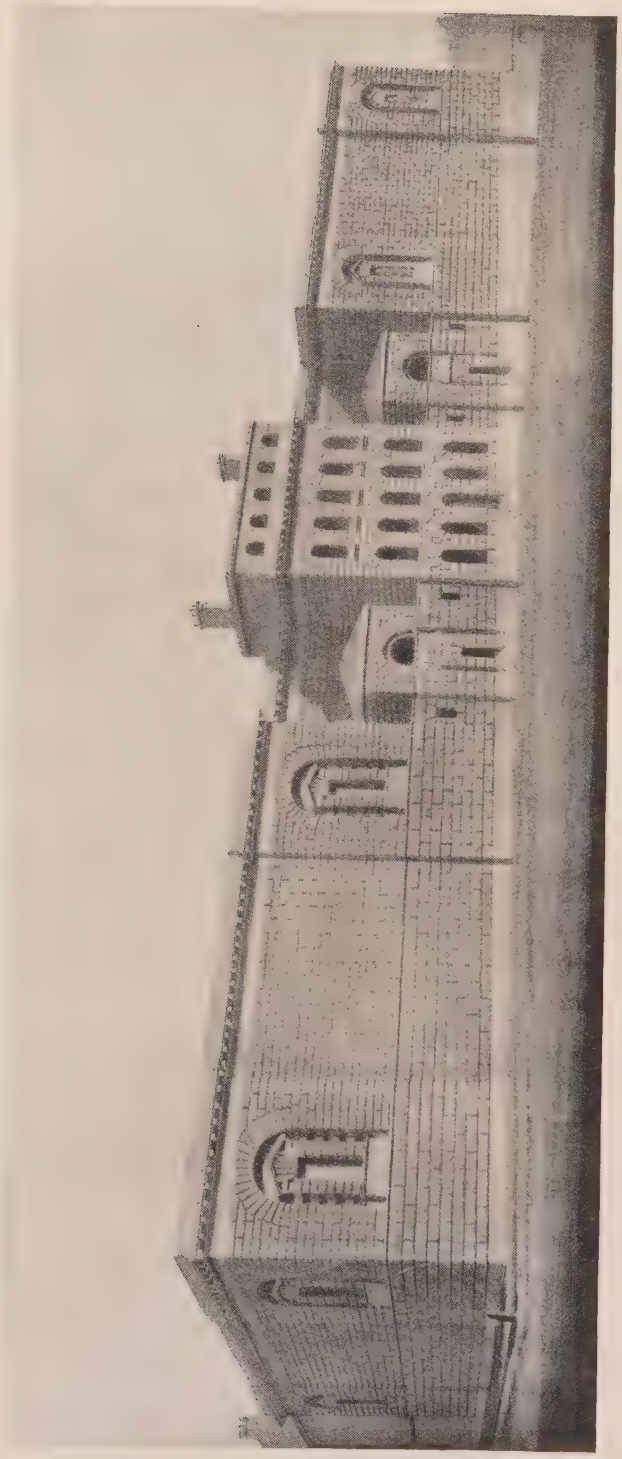
SENATE HOUSE DESIGN

Sectional Drawing made in Rome 1778-79 by J. Soan

(*See plate* 49)



BASILICA, VICENZA (1545-49)
Andrea Palladio, Architect. 1518-1580



NEWGATE PRISON

G. Dance, R.A., 1769. *As altered after the* 1780 *fire*

(*Now destroyed*)

COMPARATIVE DRAWING

Parthenon and St. Martin's in the Fields

(*See plate* 5)

THE SOANE FAMILY TOMB

Old St. Pancras. Sir John Soane, R.A. 1816

Drawn by Basevi in 1816. *West of England Landscape*

The Publications of Sir John Soane's Museum

13 Lincoln's Inn Fields, W.C.2.

No. 1. ***Description of the House and Museum on the North Side of Lincoln's Inn Fields,*** the Residence of Sir John Soane, R.A., Professor of Architecture in the Royal Academy, etc., etc., being the eleventh edition of the Official Handbook of Sir John Soane's Museum. Edited from the original "Description" written by the Founder in 1835 (not published, only 150 copies printed), by Arthur T. Bolton, F.S.A., F.R.I.B.A., Soane Medallist, Curator of Sir John Soane's Museum. With sixty-six photographic illustrations and seven plans. Printed at Oxford by Frederick Hall. Sold at the Museum. Price 1s. Demy Octavo. Also: A limited number of special Library copies, cloth bound in red and gold, with medallion head of Sir John Soane. Price 3s. each. New Edition 1930.

No. 2. ***Sir John Soane's Museum. An account of the Sarcophagus of Seti I. King of Egypt B.C. 1370.*** By Sir E. A. Wallis Budge, M.A., Litt.D. With frontispiece and 112 illustrations in the text. Printed by order of the Trustees, and sold at the Museum. Price 9d. Octavo boards.

No. 3. ***A Series of fourteen Postcard Illustrations of the House, Museum, and Library of Sir John Soane, R.A.,*** in a specially printed envelope. Sold at the Museum. Price 1s.

No. 4. ***Pitzhanger Manor, Ealing Green***—the country retreat from 1800 to 1811 of Sir John Soane, R.A., F.R.S., F.S.A. (1753-1837), Architect to the Bank of England, etc. Written by Arthur T. Bolton, F.S.A., F.R.I.B.A., Soane Medallist, Curator of Sir John Soane's Museum. With twelve illustrations and two portraits. Printed by Butler and Tanner. Sold at the Museum. Price 7d. 7¼ by 5, oblong.

No. 5. ***Souvenir of Sir John Soane, R.A.*** Reproductions of the Portrait by Sir Thomas Lawrence, P.R.A., painted in 1829, and of MS. impromptu verses by John Taylor, with note in Soane's handwriting. Two pages in printed cover. Printed by Emery Walker. Price 6d. 9½ by 7.

No. 6. ***Popular Description of the House, Museum, and Library of Sir John Soane, R.A.*** Written by Mrs. Barbara Hofland. Edited from the "Description" of 1835 by Sir John Soane, R.A., by Arthur T. Bolton, F.S.A., F.R.I.B.A., Curator of Sir John Soane's Museum. With eight illustrations of the House and Museum. Printed at Oxford by Frederick Hall. Sold at the Museum. Price 6d. Octavo.

No. 7. ***English Sculptures of the 18th Century in the Sir John Soane Museum.*** Edited by Arthur T. Bolton, F.S.A. F.R.I.B.A., Curator of Sir John Soane's Museum. Sixteen pages text. Twenty-one illustrations. Printed by Emery Walker. Sold at the Museum. Price 2s. Quarto.

No. 8. ***The Works of Sir John Soane, R.A.,*** being an account of his architectural career and works, illustrated in fourteen chapters, with preface, introduction, and three appendices recording his principal buildings and designs and the careers of his pupils and assistants. A full account of the Bank of England (1788-1833) is given in two chapters, with 40 illustrations, and there is one chapter with 10 examples of furniture at the Soane. By Arthur T. Bolton, F.S.A., F.R.I.B.A., Curator of Sir John Soane's Museum. 160 illustrations from drawings by J. M. Gandy, A.R.A., G. Basevi, C. J. Richardson, and others, from models and photographs of buildings, with plans and details. 200 pages text. Printed at the Printing Works of the Bank of England. Sold at the Museum. Price 6s. 6d. Quarto.

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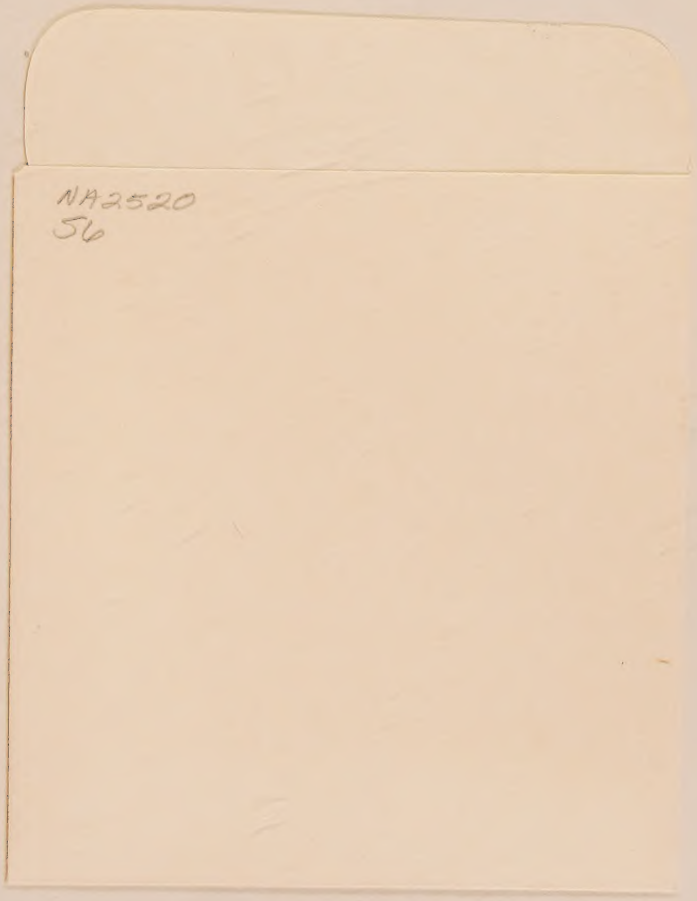
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